

### General

The operational safety and durability of a pneumatic circuit depends on the quality of the compressed air. The compressed air and the moisture increase the rate of wear of the surfaces and seals, reducing the efficiency and the life of the pneumatic components. Furthermore the pressure fluctuation due to a discontinuous demand of air, adversely effect the correct operation of the circuit. To eliminate these disadvantages it is essential to install the service unit: filter, presure regulator and lubricator.

### Construction and working characteristics

The new FRL units AIRPLUS series represents the evolution of the well known and consolidated 1700 series.

The main features are increased performances, reliability, easy and fast assembly and the introduction of the latest technical features.

With the exception of the air intake module and the pressure switch module all elements are available in two configurations: with technopolimer connections (IN and OUT), (T series), or with metal threaded inserts, (N series).

Bowls made of transparent polycarbonate (PC) are fitted with a bowl protection guard which is assembled on the body via a quick coupling mechanism provided with a safety button. The filter, available with three filtration grades ( $5\mu$ m,  $20\mu$ m and  $50\mu$ m) is fitted as standard with a drain mechanism which can be operated manually or semi-automatically. The regulator is based on the rolling diaphragm technology with low hysteresis and the system is balanced. The unit can be fitted with integrated flush mounting pressure gauge (0 to 12 bar range).

4 pressure ranges are available going from 0 to 12 bar and the regulating knob can be blocked in position simply by pressing it down. A dedicated version is available for battery mounting, up to a maximum of 6 units. The lubricator is based on the Venturi principle and the oil quantity is regulated via the adjusting screw positioned don the transparent polycarbonate (PC) regulating dome which also ensure clear visibility of the oil flow and regulation. The oil suction pipe is fitted as standard with a sintered filter which ensures that any contaminant that should be present in the oil will reach the down stream circuit. Shoot off valve is available in two versions, one manually operated and one solenoid operated. In both cases the unit is fitted with a threaded connection for depressurising the downstream circuit. On the manually operated version, in the lock position, it is possible to fit up to three locks in order to prevent the accidental pressurization of the pneumatic circuit avoiding accidents or damages.

The solenoid operated version is available with a 15mm or with a 22mm solenoid valve. The soft start valve ensure a progressive pressurization of the down stream circuit avoiding sudden pressure surges which could be dangerous for the devices fitted on the down stream circuit. The filling time can be easily adjusted via a built in flow regulator. The full flow rate is allowed only once the down stream pressure has reached 50% of the value of the inlet pressure. The pressure switch module which can be set between 2 and 10 bar and the air intake module complete the range. The elements are joint together via dedicated quick coupling technopolimer flanges which allows for the units to be panel mounted moreover ensure the possibility to replace any component without disassembling the FRL group from its position.

90° mounting brackets and standard gauges are also available.

### Instruction for installation and operation

The FRL unit must be installed as close as possible to the application.

The air flow direction must follow the directions indicated on the single units in correspondence of the threaded connections. (IN and OUT) Units provided with bowl must be mounted vertically with the bawl facing down. Single units or groups can be panel mounted via the Y type flanges, regulators and filter-regulators can be mounted via the 90° zinc plated steel bracket. In order to mount the 90° bracket it is necessary to remove the regulating knob and then the locking ring before positioning the bracket. All units must be operated according to the specified pressure and temperature ranges; fittings must be mounted without exciding the maximum torque allowed. Ensure that the units cover plates are in position before pressure is applied. The cover plates are needed to lock in position the top part of the unit. The condense level in filter-regulators bowls must never exceed the maximum level indicated on the bowls. With manual or semi automatic drain the condense can be discharged via a 6/4mm tube directly connected to the drain tap. On the pressure regulator the pressure value must always set wile pressure is rising and ideally the unit pressure range should be chosen based on the pressure value to be regulated. Lubricators must be filled with class FD22 and HG32 oils. Ensure, both on the inlet and on the outlet , that the flow rate is above the minimum flow rate required to operate the unit. Below this value the units does not operate.

The oil quantity can be regulated via the regulating screw on the transparent polycarbonate dome through which it is also clearly visible the oil flow. A drop every 300-600 litres should be allowed. The oil refill can take place only with the bowl not under pressure. This size does not have the dedicated oil re-fill plug.

The manual shot off valve needs, to be operated, a push and turn action (clockwise) in order to close it and discharge the down stream circuit it is necessary to turn anti-clock wise the knob. The soft start valve is used to slowly and progressively pressurize the down stream circuit, the time needed to do so can be set by means of the built in flow regulator. The soft start valve on its own does not allow for the down stream circuit to be discharged, in order to do so it is necessary to combine it with a shot off valve (to be mounted upstream).

### Maintenance



For any maintenance which requires the removal of the top plugs/ supports from the body it is necessary to preventively remove the sides cover plates. If the top plugs\supports are removed with the sides plates still in their position the unit could be permanently damaged.

Bowls, plugs and supports are assembled with a bayonet type mechanism. In order to remove them rotate anti clockwise until the mechanical stop is reached and than remove from the body (for the bowls firstly press down the green safety button).

Bowls and transparent parts can be cleaned with water and neutral soap. Do not use solvents or alcohol.

Filtering elements (from filters and filter regulators) made of HDPE can be regenerated by washing and blowing them. In order to remove them it is necessary to remove the bowl unscrew the filter element and replace it with a new one or clean it.

The oil refill process can take place only if the bowl in not pressurized. The oil refill plug is not available on this size.

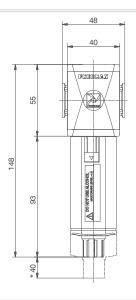
Should the pressure regulator not perform properly or should present a constant leackage from the relieving replaced the diaphragm by unloading completely the regulating spring before removing the regulation support.

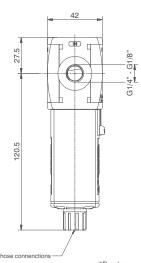
Any other maintenance operation, in consideration of the complexity of the assembly, and the need of a through test according to the Pneumax spa specification, should be carried out by the manufacturer.

### Fittings maximum recommended torque applicable

THREAD	Technopolymer version (T)	Metal version (N)
G1/8"	4 Nm	15 Nm
G1/4"	9 Nm	20 Nm
G3/8"	16 Nm	25 Nm
G1/2"	22 Nm	30 Nm

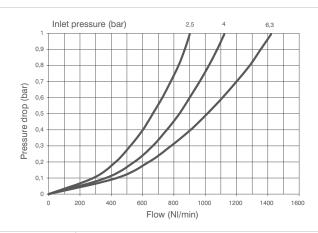






\*Bowl removal maximum height

Example: T171BFB: size 1, Filter with Technopolymer threads, G1/4" connections, 20  $\mu$ m filter pore size



Flow rate curves

### **Operational characteristics**

Double filtering action: air flow centrifugation and filter element
Filtering element made of HDPE (high density polyethylene)

available in three different filtration grades (5 $\mu$ m, 20 $\mu$ m and  $50\mu\text{m}$ ) can be regenerated by washing it or replaced.

Transparent bowl made off polycarbonate with bowl protection guard.

Bowl assembly via bayonet type quick coupling mechanism with safety button.

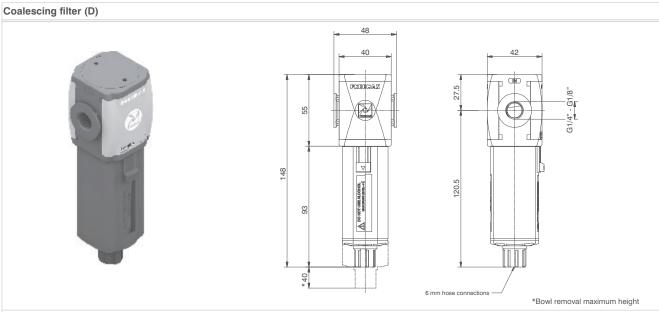
Semi-automatic drain mounted as standard; automatic drain upon request

Note

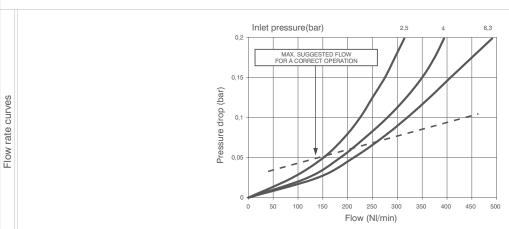
In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

Technical characteristics			
Connections	G 1/8" - G 1/4"		
Max. inlet pressure	13 bar		
Minimum working pressure	0,5 bar		
with automatic drain	0,0 541		١
Maximum working pressure	10 hav	V	1
with automatic drain	10 bar		
Working temperature	-5°C +50°C		1
Weight with Technopolymer threads	gr. 120		E
Weight with threaded inserts	gr. 130	-	(
Filter pore size	5 μm - 20 μm - 50 μm	8	1
Bowl capacity	18 cm <sup>3</sup>	0	E
Assembly positions	Vertical	-	(
Max. fitting torque		0	-
(with Technopolymer threads)	G1/4" = 9 Nm		5
Max. fitting torque	G1/8" = 15 Nm		
(with threaded inserts)	G1/4" = 20 Nm		

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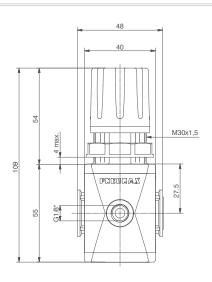


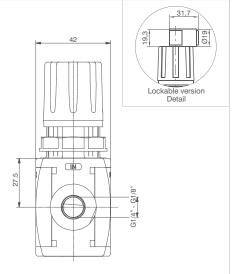
Example: T171BDA: Coalescing size 1, Filter with Technopolymer threads, G1/4" connections, filter efficency 99,97%



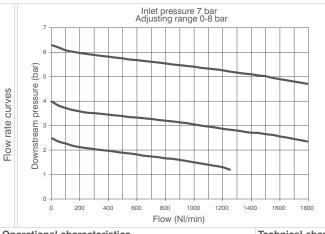
Operational characteristics	Technical characteristics				
Coelesing filter element with filtration grade of $0.01 \mu m$	Connections	G 1/8" - G 1/4"		Ordering code	
Transparent bowl made off polycarbonate with	Max. inlet pressure	13 bar			
bowl protection guard.	Minimum working pressure	0,5 bar	<b>Ø</b> 171 <b>⊚</b> D <b>⊜⊚</b>		
Bowl assembly via bayonet type quick coupling	with automatic drain	0,5 541		VERSION	
mechanism with safety button.	Maximum working pressure		V	N = Metal inserts	
Semi-automatic drain mounted as standard;	with automatic drain	10 bar		T = Technopolymer thread	
automatic drain upon request	Working temperature	-5°C +50°C		CONNECTIONS  A = G1/8"(only for "N" version)	
Note	Weight with Technopolymer threads	gr. 125	•	B = G1/4"	
n order to ensure a better grade of filtration it is recommended	Weight with threaded inserts	gr. 135	_	C = G1/4" NPT(only for "N" version	
to use a 5 $\mu$ m filter before the coalescing filter. In order to ensure			•	FILTER EFFICIENCY A = 99,97%	
adequate flow on the auto drain version it is recommended to	with 0,01 μm particle	99,97%		OPTIONS	
use minimum a 6mm fitting.	Bowl capacity	18cm³	•	= Standard *	
3	Assembly positions	Vertical		S = Automatic drain	
	Max. fitting torque	0.47411 0.341			
	(with Technopolymer threads)	G1/4" = 9 Nm			
	Max. fitting torque	G1/8" = 15 Nm			
	(with threaded inserts)	G1/4" = 20 Nm			

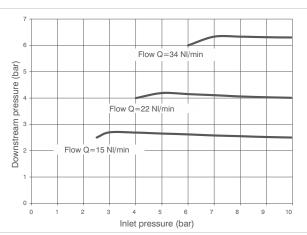






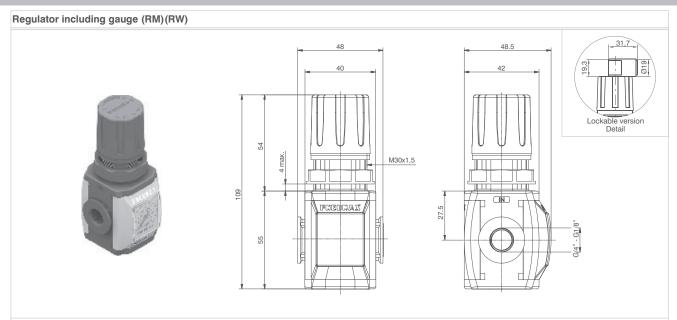
Example: T171BRC : size 1, Regulator with Technopolymer threads, G1/4" connections, 0 to 8 bar adjusting range



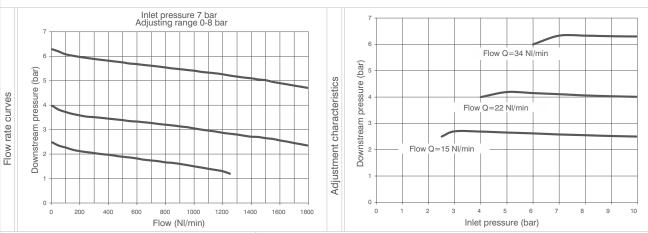


Operational characteristics	Technical characteristics			
- Diaphragm pressure regulator with relieving.	Connections	G 1/8" - G 1/4"		Ordering code
- Low hysteresis rolling diaphragm.	Max. inlet pressure	13 bar		
- Balanced system.	Working temperature	-5°C +50°C		<b>Ø</b> 171 <b>@</b> R <b>©@</b>
Available in four pressure ranges up to 12 bar.	Pressure gauge connections	G 1/8"		VERSION
Operating knob can be locked in position by pressing it	Weight with Technopolymer threads	gr. 130	V	N = Metal inserts
down once the desired P2 (regulated pressure)	Weight with threaded inserts	gr. 140		T = Technopolymer thread CONNECTIONS
pressure value is achieved.		0-2 bar / 0-4 bar		A = G1/8"(only for "N" version)
Fitted with panel mounting locking ring.	Pressure range	0-8 bar / 0-12 bar	0	B = G1/4"
Note	Assembly positions	Indifferent	_	C = G1/4" NPT(only for "N" version
The pressure must be always regulating while increasing. For			ADJUSTING RANGE A = 0-2 bar	
a more precise regulation and higher sensibility, the use of a	(with Technopolymer threads)	G1/4" = 9 Nm	G	B = 0-4 bar
	(with recimopolymer timeaus)	G1/4 - 3 MIII		C = 0-8 bar
regulator with a pressure range as close as possible to the				D = 0-12 bar
regulated pressure is recommended.				TYPE
				= Standard *
	Max. fitting torque	G1/8" = 15 Nm	0	F = Controlled refiel +
	(with threaded inserts)	G1/4" = 20 Nm	-	improved relieving
	(Will threaded inserts) G1/4 = 20 Nill		L = no relieving	
				R = Improved relieving
				OPTIONS
			0	= Standard *
				K = Lockable version

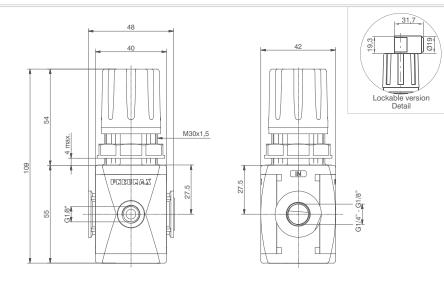
Adjustment characteristics



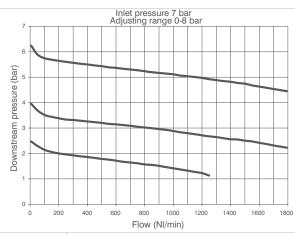
Example: T171BRMC: size 1, Regulator including gauge with Technopolymer threads, G1/4" connections, 0 to 8 bar adjusting range



Operational characteristics	Technical characteristics			
- Diaphragm pressure regulator with relieving.	Connections	G 1/8" - G 1/4"		Ordering code
- Low hysteresis rolling diaphragm.	Max. inlet pressure	13 bar		<u> </u>
- Balanced system.	Working temperature	-5°C +50°C		<b>Ø</b> 171 <b>@</b> R <b>D©①0</b>
- Available in four pressure ranges up to 12 bar.	Weight with Technopolymer threads	gr. 140		VERSION
- Operating knob can be locked in position by pressing it	Weight with threaded inserts	gr. 150	V	N = Metal inserts
down once the desired P2 (regulated pressure)	Duncas we were	0-2 bar / 0-4 bar		T = Technopolymer thread CONNECTIONS
pressure value is achieved.	Pressure range	0-8 bar / 0-12 bar	0	A = G1/8"(only for "N" version)
- Fitted with panel mounting locking ring.	Assembly positions	Indifferent	(	B = G1/4"
- Integrated manometer 0-12 bar as standard	Max. fitting torque			C = G1/4" NPT(only for "N" version)
(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)		G1/4" = 9 Nm	0	FLOW DIRECTION  M = from left to right
	(with recimopolymer threads)		•	W = from right to left
Note	_			ADJUSTING RANGE
The pressure must be always regulating while increasing. For				A = 0-2 bar
a more precise regulation and higher sensibility, the use of a			e	B = 0-4 bar
regulator with a pressure range as close as possible to the				C = 0-8 bar
				D = 0-12 bar
regulated pressure is recommended.	Max. fitting torque	G1/8" = 15 Nm		TYPE
		- , -		= Standard *
	(with threaded inserts)	G1/4" = 20 Nm	0	F = Controlled refiel +
			•	improved relieving
				L = no relieving
				R = Improved relieving
				OPTIONS
			0	= Standard *
				K = Lockable version



Example: T171BBC : size 1, Regulator with Technopolymer threads, G1/4" connections, 0 to 8 bar adjusting range

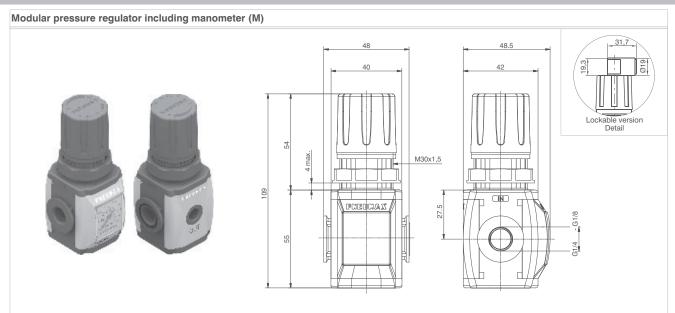


	FIOW (MI/ITIIII)			
Operational characteristics	Technical characteristics			
- Diaphragm pressure regulator with relieving.	Connections	G 1/8" - G 1/4"		Ordering code
- Low hysteresis rolling diaphragm.	Max. inlet pressure	13 bar		
- Balanced system.	Working temperature	-5°C +50°C		<b>Ø</b> 171 <b>©</b> B <b>©10</b>
- Available in four pressure ranges up to 12 bar.	Pressure gauge connections	G 1/8"		VERSION
- Operating knob can be locked in position by pressing it	Weight with Technopolymer threads	gr. 130	V	N = Metal inserts
down once the desired P2 (regulated pressure)	Weight with threaded inserts	gr. 140		T = Technopolymer thread CONNECTIONS
pressure value is achieved.	D	0-2 bar / 0-4 bar		A = G1/8"(only for "N" version)
- G1/8" output front connection.	Pressure range	0-8 bar / 0-12 bar	0	B = G1/4"
- Air supply can be applied by both directions.	Assembly positions	Indifferent	_	C = G1/4" NPT(only for "N" version)
Note	Max. fitting torque	G1/8" = 4 Nm	ADJUSTING RANGE A = 0-2 bar	
The pressure must be always regulating while increasing. For	(with Technopolymer threads)	G1/4" = 9 Nm	G	B = 0-4 bar
a more precise regulation and higher sensibility, the use of a	(Mar recimiepolymer amedae)	0.7.	-	C = 0-8 bar
				D = 0-12 bar
regulator with a pressure range as close as possible to the				TYPE = Standard *
regulated pressure is recommended.				F = Controlled refiel +
	Max. fitting torque	G1/8" = 15 Nm	0	improved relieving
	(with threaded inserts)	G1/4" = 20 Nm		L = no relieving
				R = Improved relieving
				OPTIONS
			0	= Standard *
				K = Lockable version
				A

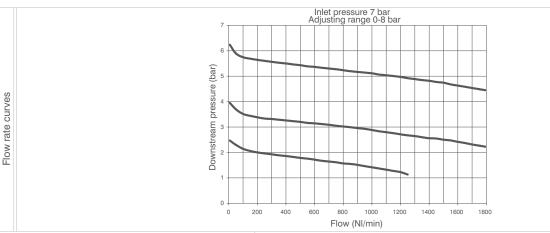
\* no additional letter required

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Flow rate curves



Example: T171BMC: size 1, Regulator including gauge with Technopolymer threads, G1/4" connections, 0 to 8 bar adjusting range

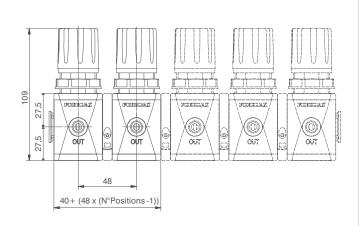


### Operational characteristics **Technical characteristics** G 1/8" - G 1/4" - Diaphragm pressure regulator with relieving. Connections Ordering code - Low hysteresis rolling diaphragm. Max. inlet pressure 13 bar **♥**171**⊝**M**⊜⊕⊚** - Balanced system. -5°C +50°C Working temperature Weight with Technopolymer threads - Available in four pressure ranges up to 12 bar. gr. 140 VERSION N = Metal inserts Weight with threaded inserts - Operating knob can be locked in position by pressing it gr. 150 T = Technopolymer threaddown once the desired P2 (regulated pressure) 0-2 bar / 0-4 bar Pressure range CONNECTIONS 0-8 bar / 0-12 bar pressure value is achieved. A = G1/8" (only for "N" version)B = G1/4" Indifferent - G 1/8" output connection positioned on the opposite Assembly positions C = G1/4" NPT(only for "N" version) Max. fitting torque G1/8" = 4 Nm side of the built in gauge. ADJUSTING RANGE G1/4" = 9 Nm - Air supply can be applied by both directions. (with Technopolymer threads) A = 0-2 bar **B** = 0-4 bar - Integrated manometer 0-12 bar as standard C = 0-8 bar (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range) D = 0-12 bar Note TYPE = Standard \* The pressure must be always regulating while increasing. For Max. fitting torque G1/8" = 15 Nm F = Controlled refiel + a more precise regulation and higher sensibility, the use of a (with threaded inserts) G1/4" = 20 Nm improved relieving regulator with a pressure range as close as possible to the L = no relieving R = Improved relieving regulated pressure is recommended. OPTIONS = Standard \*

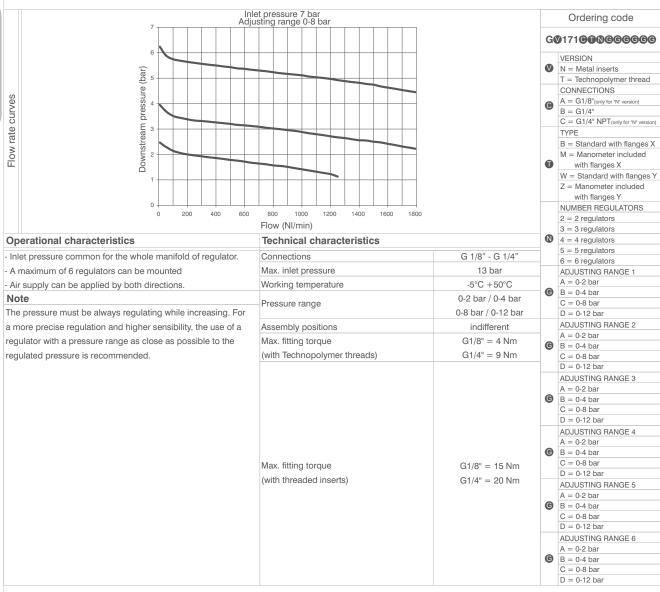
K = Lockable version

\* no additional
letter required

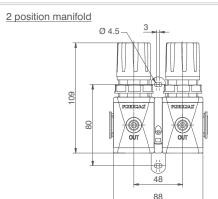


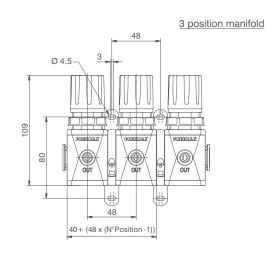


Example: GT171BB4CCCC: Combined group comprising 4 size 1 Regulators Technopolymer threads, G1/4" connections and 0 to 8 bar adjusting range

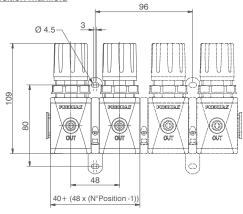


### Dimensions with Y type flanges

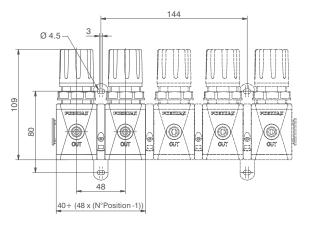




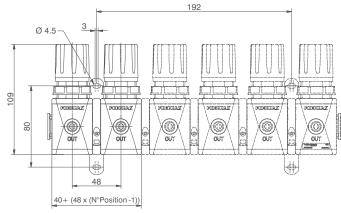
# 4 position manifold

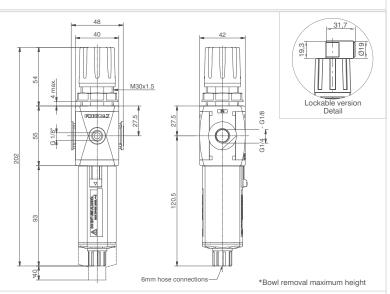


### 5 position manifold

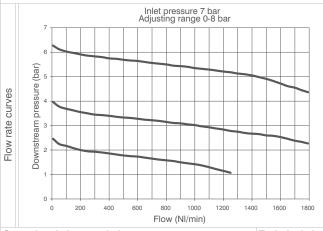


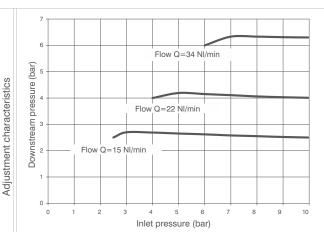
# 6 position manifold





Example: T171BEBC: size 1, Filter-regulator with Technopolymer threads, G1/4" connections, 20  $\mu$ m filtering pore size, 0 to 8 bar adjusting range





### Operational characteristics

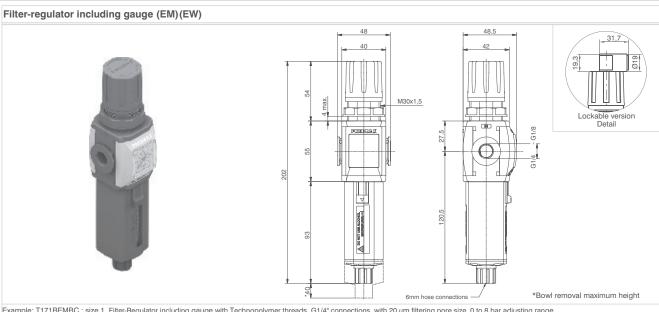
- Filter diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5μm, 20μm and 50μm) can be regenerated by washing it or replaced.
- Transparent bowl made of polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard;
   automatic drain upon request
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.

### Note

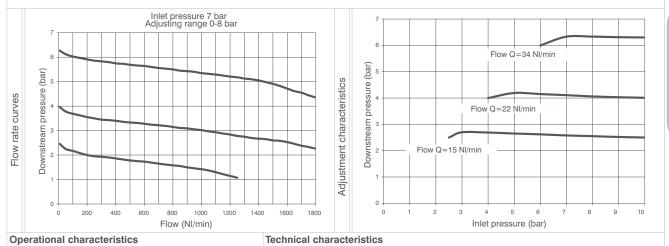
The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

Technical	characteristics
iccillical	Ullai autellistius

G 1/8" - G 1/4"		Ordering code
13 bar		
0,5 bar		<b>♥</b> 171 <b>©</b> E <b>©©©</b>
		VERSION
10 han		N = Metal inserts
10 bar		T = Technopolymer thread
-5°C +50°C		CONNECTIONS  A = G1/8"(only for "N" version)
G 1/8"	9	B = G1/4"
	-	C = G1/4" NPT(only for "N" version)
	- I	FILTER PORE SIZE
gr. 200	- 69 -	$A = 5 \mu m$
0-2 bar / 0-4 bar	- I	B = 20 μm
0-8 bar / 0-12 bar		C = 50 μm
5 μm - 20 μm - 50 μm	- I	ADJUSTING RANGE  A = 0-2 bar
		B = 0-4 bar
	-	C = 0-8 bar
		D = 0-12 bar
G1/8" = 4 Nm		TYPE
G1/4" = 9 Nm		= Standard *
	_	S = Automatic drain
		OPTIONS
	_	= Standard *
		K = Lockable version
G1/8" = 15 Nm		* no additional letter required
G1/4" = 20 Nm		letter required
G1/4" = 20 Nm		
	13 bar  0,5 bar  10 bar  -5°C +50°C  G 1/8"  gr. 190  gr. 200  0-2 bar / 0-4 bar  0-8 bar / 0-12 bar  5 \(mu\) = 50 \(mu\) m  18 cm <sup>3</sup> Vertical  G1/8" = 4 Nm  G1/4" = 9 Nm	13 bar  0,5 bar  10 bar  10 bar  -5°C +50°C  G 1/8"  gr. 190  gr. 200  0-2 bar / 0-4 bar  0-8 bar / 0-12 bar  5 \( \mu\) -50 \( \mu\) m  18 \( \cdots \) Vertical  G1/8" = 4 \( \mu\) M  G1/4" = 9 \( \mu\) M  G1/8" = 15 \( \mu\) M



Example: T171BEMBC: size 1, Filter-Regulator including gauge with Technopolymer threads, G1/4" connections, with 20  $\mu$ m filtering pore size, 0 to 8 bar adjusting range



### Filter - diaphragm pressure regulator with relieving. Low hysteresis rolling diaphragm. Balanced system. Double filtering action: air flow centrifugation and filter element. Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5 $\mu$ m, 20 $\mu$ m and $50\mu\text{m}$ ) can be regenerated by washing it or replaced. Transparent bowl made off polycarbonate with bowl protection guard. Bowl assembly via bayonet type quick coupling mechanism with safety button. Semi-automatic drain mounted as standard; automatic drain upon request Available in four pressure ranges up to 12 bar. Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved. Fitted with panel mounting locking ring. - Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to

Note

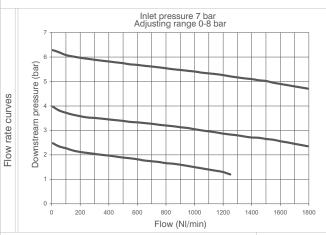
use minimum a 6mm fitting

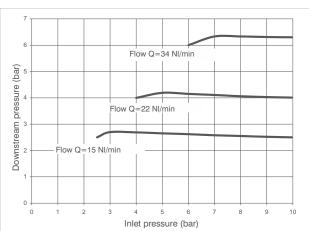
	Connections	G 1/8" - G 1/4"		Ordering code
	Max. inlet pressure	13 bar		
P	Minimum working pressure	0,5 bar		<b>0</b> 171 <b>0</b> E <b>0000</b>
t.	with automatic drain			VERSION
	Maximum working pressure		V	N = Metal inserts
	with automatic drain	10 bar		T = Technopolymer thread
		500 . 5000	-	CONNECTIONS
	Working temperature	-5°C +50°C	0	A = G1/8"(only for "N" version)
	Weight with Technopolymer threads	gr. 200		B = G1/4"
	Weight with threaded inserts	gr. 210		C = G1/4" NPT(only for "N" version) FLOW DIRECTION
	_	0-2 har / 0-4 har		M = from left to right
	Pressure range		9	W = from right to left
		·		FILTER PORE SIZE
	Filter pore size	5 μm - 20 μm - 50 μm		$A = 5 \mu m$
	Bowl capacity	18 cm <sup>3</sup>	9	B = 20 μm
	Assembly positions	Vertical		$C = 50 \mu m$
	Max. fitting torque			ADJUSTING RANGE
	0 1	G1/4" = 9 Nm		A = 0-2 bar
	(with Technopolymer threads)	10 bar  -5°C +50°C gr. 200 gr. 210 0-2 bar / 0-4 bar 0-8 bar / 0-12 bar 5 \( \mu\mathrm{m} - 20 \( \mu\mathrm{m} - 50 \( \mu\mathrm{m} \) 18 cm³ Vertical		
				C = 0-8 bar
				D = 0-12 bar
				TYPE
			U	= Standard *
)				S = Automatic drain
	Man Cities Assessed	04/01 45 11		OPTIONS = Standard *
	Max. fitting torque	G1/8" = 15 Nm	•	K = Lockable version
	(with threaded inserts)	G1/4" = 20 Nm		* no additional
				letter required
				lottor roquirou

G 1/8" - G 1/4"

# Regulator with pressure switch (RP)(RZ) 48 40 40 COLORADIC VERSION Detail

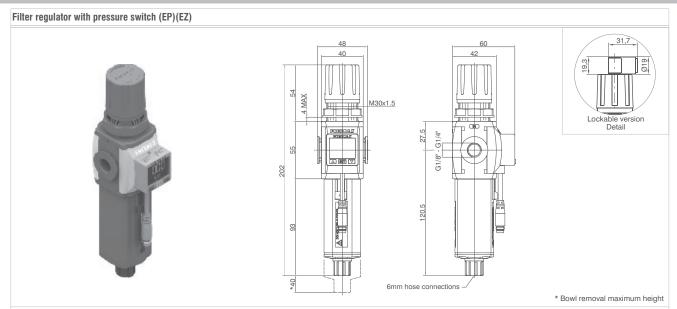
Example: T171BRPCA: size 1, Regulator with Technopolymer threads, G1/4" connections, 0 to 8 bar adjusting range, with pressure switch with M8 connector PNP



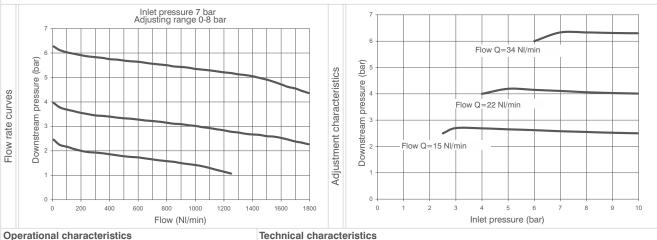


Flow (NI/min)			Inlet pressure (b	ar)	
Operational characteristics	Technical charac	teristics			
- Diaphragm pressure regulator with relieving.	Connections		G 1/8" - G 1/4"		Ordering code
- Low hysteresis rolling diaphragm.	Max. inlet pressure		13 bar		<u> </u>
- Balanced system.	Working temperature	9	0°C +50°C		<b>0</b> 171 <b>0</b> R <b>00000</b>
- Available in four pressure ranges up to 12 bar.	Weight with Technop	olymer threads	gr. 140		VERSION
- Operating knob can be locked in position by pressing it	Weight with threaded	d inserts	gr. 150	V	N = Metal inserts
down once the desired P2 (regulated pressure)	_		0-2 bar / 0-4 bar	_	T = Technopolymer thread CONNECTIONS
pressure value is achieved.	Pressure range		0-8 bar / 0-12 bar		A = G1/8"(only for "N" version)
- Fitted with panel mounting locking ring.	Assembly positions		Indifferent	•	B = G1/4"
- Pressure switch as standard	Max. fitting torque		mamoroni		C = G1/4" NPT(only for "N" version)
	_		G1/4" = 9 Nm		FLOW DIRECTION
Note	(with Technopolyme	r threads)		U	P = from left to right
The pressure must be always regulating while increasing. For					Z = from right to left  ADJUSTING RANGE
a more precise regulation and higher sensibility, the use of a					A = 0-2 bar
regulator with a pressure range as close as possible to the					B = 0-4 bar
regulated pressure is recommended.					C = 0-8 bar
regulated pressure is recommended.					D = 0-12 bar
					TYPE
					= Standard *
	Mary fitting to your		04/01 45 No.	0	F = Controlled refiel +
	Max. fitting torque		G1/8" = 15 Nm		improved relieving
	(with threaded insert	s)	G1/4" = 20 Nm		L = no relieving
				R = Improved relieving	
				0	OPTIONS = Standard *
				•	K = Lockable version
					PRESSURE SWITCH OPTION
					A = Cable 150 mm+M8 PNP
				P	B = Cable 150 mm+M8 NPN
				-	C = Cable 2 mt. PNP
					D = Cable 2 mt. NPN
					* no additional letter required

Adjustment characteristics



Example: T171BEPBCA: size 1, Filter-regulator with Technopolymer threads, G1/4" connections, 20  $\mu$ m filtering pore size, 0 to 8 bar adjusting range, with pressure switch with M8 connector PNP



Connections

Bowl capacity

Operat	tional	charac	teristics	

- Filter diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5 $\mu$ m, 20 $\mu$ m and  $50\mu\text{m}$ ) can be regenerated by washing it or replaced.
- Transparent bowl made off polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard; automatic drain upon request
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Pressure switch as standard

# Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

Max. inlet pressure	13 bar	
Minimum working pressure with automatic drain	0,5 bar	
Maximum working pressure with automatic drain	10 bar	
Working temperature	0°C +50°C	
Weight with Technopolymer threads	gr. 200	
Weight with threaded inserts	gr. 210	
Pressure range	0-2 bar / 0-4 bar	
Tressure range	0-8 bar / 0-12 bar	
Filter pore size	5 μm - 20 μm - 50 μm	

G 1/8" - G 1/4"

18 cm<sup>3</sup>

Assembly positions	Vertical
Max. fitting torque	G1/4" = 9 Nm
(with Technopolymer threads)	

Max. fitting torque	G1/8" = 15 Nm
(with threaded inserts)	G1/4" = 20 Nm

# Ordering code **0**171**0**E**000000** VEDSION

	VENSION
V	N = Metal inserts
	T = Technopolymer thread
	CONNECTIONS
•	A = G1/8"(only for "N" version)
G	B = G1/4"

		C = G1/4" NPT (only for "N" version
_		FLOW DIRECTION
	0	P = from left to right
		Z = from right to left
		FILTER PORE SIZE

8	$A = 5 \mu m$
0	$B = 20 \mu m$
	$C = 50  \mu m$
	ADJUSTING RANGE
	A = 0-2 bar
	D 0.41

G	B = 0-4  bar
	C = 0-8 bar
	D = 0-12 bar
	TYPE

	ITPE
•	= Standard *
	S = Automatic drain
	OPTIONS
(1)	= Standard *

	= Standard *
	K = Lockable version
	PRESSURE SWITCH OPTION
	A = Cable 150 mm+M8 PNF
P	B - Cable 150 mm + M8 NPN

		00010				
P	В =	Cable	150	mm	+M8	NPI
	C =	Cable	2 m	t. PN	ΙP	
	D =	Cable	2 m	t. NF	PN	



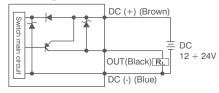


### **CHARACTERISTICS**

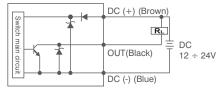
- 3 color digital LCD display, easy readout
- 4 units of measurement for pressure indication
- PNP and NPN output
- N.O. and N.C. output contact
- Not available individually, but only with a Regulator or a Filter-regulator

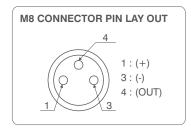
### **OUTPUT CIRCUIT WIRING DIAGRAMS**

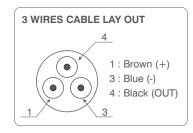
### **PNP** output



### **NPN** output







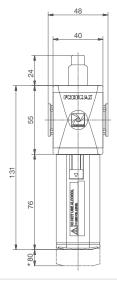
### Cable ordering code

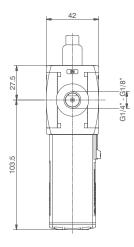
MCH1cable 3 wires I=2,5m with M8 connectorMCH2cable 3 wires I=5m with M8 connectorMCH3cable 3 wires I=10m with M8 connector

### **TECHNICAL CHARACTERISTICS** Adjusting range $0 \div 10 \text{ bar} / 0 \div 1 \text{MPa}$ Max. inlet pressure 15 bar / 1,5 MPa Fluid Filtered and dehumidified air Display unit of measurement MPa - kgf/cm2 - bar - psi Supply voltage 12 ÷ 24 VDC Current consumption ≤40mA (without load) Digital output type NPN - PNP Normally Open - Normally Closed Type of contact Max. load current 125 mA Digital output activation mode single threshold with fixed hysteresis - window with fixed hysteresis - window without hysteresis Digital output activation time 0.05s - 0.25s - 0.5s - 1s - 2s - 3s (selections for chattering-proof function) Double 3 1/2 digit display Display characteristics Digital output status indication Three-pushbuttons touchpad ≤±2% F.S. ± 1 digit Indicator accuracy IP 40 Protection grade Temperature 0 ÷ 50 °C 3 x 0,129mm<sup>2</sup>, Ø4 mm, PVC Cable section

# Lubricator (L)

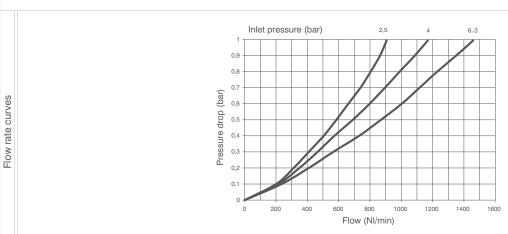




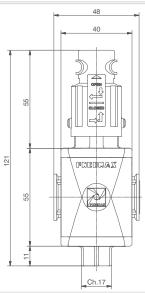


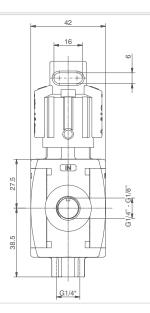
\*Bowl removal maximum height

Example: T171BL: size 1, Lubricator with Technopolymer threads, G1/4" connections



Operational characteristics	Technical characteristics		
Oil mist lubrication with variable orifice size in function	Connections	G 1/8" - G 1/4"	Ordering code
of the flow rate	Max. inlet pressure	13 bar	
- Oil quantity regulation mechanism and oil quantity	Working temperature	-5°C +50°C	<b>Ø</b> 171 <b>⊚</b> L
visualization dome made of polycarbonate.	Weight with Technopolymer threads	gr. 110	VERSION
- Transparent bowl made off polycarbonate with	Weight with threaded inserts	gr. 120	N = Metal inserts
bowl protection guard.	Indicative oil drip rate	1 drop every	T = Technopolymer thread CONNECTIONS
Bowl assembly via bayonet type quick coupling mechanism	indicative oil drip rate	300/600 NI	A = G1/8" (only for "N" version)
with safety button.	Oil type	FD22 - HG32	B = G1/4"
Note	Bowl capacity	36 cm <sup>3</sup>	C = G1/4" NPT(only for "N" version)
Install as close as possible to the point o fuse	Assembly positions	Vertical	
Do not use alcohol , deterging oils or solvents.	Max. fitting torque	04/411 0 11/22	
	(with Technopolymer threads)	G1/4" = 9 Nm	
	Max. fitting torque	G1/8" = 15 Nm	
	(with threaded inserts)	G1/4" = 20 Nm	
	Min. operational flow at 6,3 bar	40 NI/min.	





Example: T171BVL: size 1, Shut-off valve with Technopolymer threads, G1/4" connections

### Operational characteristics

- Manual operated 3 ways poppet valve.
- Double handle action for valve opening: pushing and rotating (clockwise).
- The valve can be closed and the down stream circuit depressurized by rotating anticlockwise the knob.
- Knob lockable with three padlocks.

### **Technical characteristics**

Connections	G 1/8" - G 1/4"
Max. inlet pressure	13 bar
Discharge connection	G1/4"
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 100
Weight with threaded inserts	gr. 110
Assembly positions	Indifferent
Handle opening and closing angle	90°
Max. fitting torque	G1/4" = 9 Nm
(with Technopolymer threads)	G1/4 - 914111
Max. fitting torque	G1/8" = 15 Nm
(with threaded inserts)	G1/4" = 20 Nm
Nominal flow rate	1400 NI/min.
at 6 bar with Δp=1	1400 M/IIIII.
Exhaust nominal flow rate	550 NI/min.
at 6 bar with Δp=1	OOU MI/IIIII.

W171@VL

VERSION

N = Metal inserts

T = Technopolymer thread

CONNECTIONS

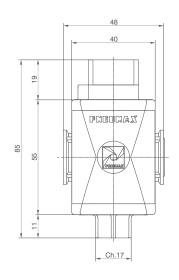
A = G1/8" (only for "N" version)

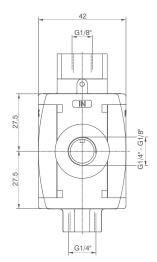
B = G1/4"

C = G1/4" NPT (only for "N" version)

Ordering code







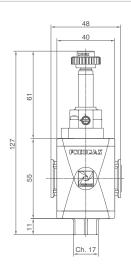
Example: T171BVP: size 1, Pneumatic shut-off valve with Technopolymer threads, G1/4" connections

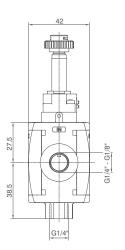
Operational characteristics	Technical characteristics		
Pneumatic operated 3 ways poppet valve.	Connections	G 1/8" - G 1/4"	Ordering code
When the pneumatic signal is removed the	Discharge connection	G1/4"	
valves exhaust the pneumatic circuit	Pilot port size	G1/8"	<b>Ø</b> 171 <b>@</b> VP
	Working temperature	-5°C +50°C	VERSION
	Weight with technopolymer threads	gr. 94	N = Metal inserts
Weight with threaded inserts	gr. 99	T = Technopolymer thread	
	Assembly positions	Indifferent	A = G1/8"(only for "N" version)
	Min. pressure working	3 bar	B = G1/4"
	Max. pressure working	10 bar	C = G1/4" NPT(only for "N" ver
	Max. fitting torque	G1/4" = 9 Nm	
	(with Technopolymer threads)	G1/4 = 9 NIII	
	Max. fitting torque	G1/8" = 15 Nm	
	(with threaded inserts)	G1/4" = 20 Nm	
	Nominal flow rate	4.400 NII/resire	
	at 6 bar with Δp=1	1400 NI/min.	
	Exhaust nominal flow rate	FFO NII/rein	
	at 6 bar with Δp=1	550 NI/min.	



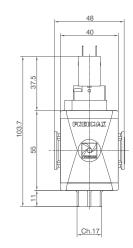
# Electric shut-off valve (VE)

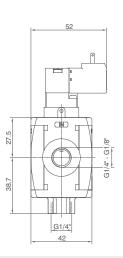












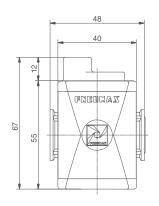
Example: T171BVEB2: size 1, Electric shut-off valve, with M2 pilot without coil, Technopolymer threads, G1/4" connections

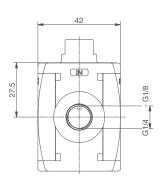
Supply and operating connections Discharge connections Working temperature Weight with Technopolymer threads	G 1/8" - G 1/4" G 1/4" -5°C +50°C		Ordering code
Working temperature			
0 1	-5°C +50°C		
Weight with Technopolymer threads		<b>Ø</b> 171 <b>⊚</b> VE <b></b>	
	130 g		VERSION
Weight with threaded inserts	140 g	V	N = Metal inserts
Assembly positions	Indifferent		T = Technopolymer thread
/ 1			CONNECTIONS  A = G1/8"(only for "N" version)
		•	B = G1/4"
3	10 Dar		C = G1/4" NPT(only for "N" ver
Max. fitting torque	G1/4" = 9 Nm		15 mm COIL VOLTAGE
(with Technopolymer threads)			A4 = 12 V DC
Max. fitting torque	G1/8" = 15 Nm		A5 = 24 V DC
(with threaded inserts)	G1/4" = 20 Nm		A6 = 24 V AC (50-60 Hz)
Nominal flow rate 1400 NI/r	3.7		A7 = 110 V AC (50-60 Hz A8 = 220 V AC (50-60 Hz
	1400 NI/min.		A9 = 24 V DC (1 Watt)
at 6 bar with Δp=1			22 mm COIL VOLTAGE
			B2 = Without coil
			M2 mechanic
			B4 = 12 V DC
			B5 = 24 V DC
			B6 = 24 V AC (50-60 Hz)
Exhaust nominal flow rate			B7 = 110 V AC (50-60 H
	550 NI/min.		B8 = 220 V AC (50-60 Hz
at 6 bar with Δp=1			B9 = 24 V DC (2 Watt)
			30 mm COIL VOLTAGE
			C5 = 24 V DC
			C6 = 24 V AC (50-60 Hz
			C7 = 110 V AC (50-60 H
			C8 = 230 V AC (50-60 H
	Assembly positions Min. Pressure working Max. Pressure working Max. fitting torque (with Technopolymer threads) Max. fitting torque (with threaded inserts)	Assembly positions  Min. Pressure working  Max. Pressure working  Max. fitting torque (with Technopolymer threads)  Max. fitting torque (with threaded inserts)  Nominal flow rate at 6 bar with $\Delta p = 1$ Exhaust nominal flow rate $G1/B^{**} = 9 \text{ Nm}$ $G1/B^{**} = 15 \text{ Nm}$ $G1/B^{**} = 20 \text{ Nm}$ $G1/B^{**} = 20 \text{ Nm}$ $G1/B^{**} = 15 \text{ Nm}$ $G1/B^{**} = 15$	Assembly positions  Min. Pressure working  Max. Pressure working  Max. fitting torque (with Technopolymer threads)  Max. fitting torque (with threaded inserts)  Max. fitting torque  G1/4" = 9 Nm (with threaded inserts)  G1/4" = 20 Nm  Nominal flow rate at 6 bar with Δp=1



### Progressive start-up valve (AP)







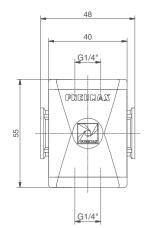
Example: T171BAP: size 1, Progressive start-up valve with Technopolymer threads, G1/4" connections

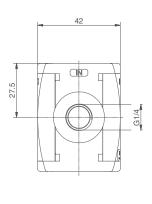
### Operational characteristics **Technical characteristics** Down stream circuit filling time regulated via a built G 1/8" - G 1/4" Connections Ordering code in flow regulator. Max. inlet pressure 13 bar **Ø**171**⊚**AP -5°C +50°C Full pressure is allowed once the down stream circuit Working temperature pressure reaches 50% of the inlet pressure. Weight with Technopolymer threads gr. 70 VERSION N = Metal inserts Weight with threaded inserts gr. 80 T = Technopolymer thread Max. fitting torque CONNECTIONS G1/4" = 9 Nm A = G1/8"(only for "N" version) (with Technopolymer threads) B = G1/4" G1/8" = 15 NmMax. fitting torque C = G1/4" NPT(only for "N" version) (with threaded inserts) G1/4" = 20 NmAssembly positions Indifferent Min. pressure working 2,5 bar Nominal flow rate 1400 NI/min. at 6 bar with ∆p=1 Fully open built in flow

regulator flow rate

### Air intake (PA)







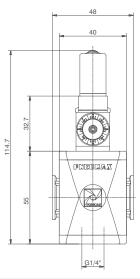
75 NI/min.

Example : T171BPA : size 1, Air intake with Technopolymer threads, G1/4" connections

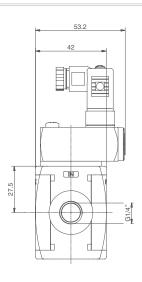
Operational characteristics	Technical characteristics		
- Available with two G1/4" threaded connections.	Connections	G 1/4"	Ordering code
	Max. inlet pressure	13 bar	
Attenction For this product are available only	Working temperature	-5°C +50°C	T171BPA
Technopolymer connections	Weight	gr. 52	
	Assembly positions	Indifferent	
	Max. fitting torque	G1/4" = 9 Nm	
	(with Technopolymer threads)	G1/4 = 9 NIII	

### Pressure switch (PP)





**Technical characteristics** 



Example: T171BPP : Size 1, Pressure switch with Technopolymer threads, G1/4" connections

### **Operational characteristics**

### Built in adjustable pressure switch (2 to 10 bar) with electrical connection.

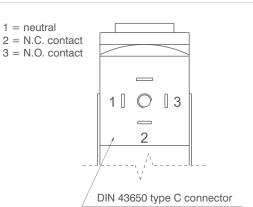
- G1/4" threaded connection on the bottom face.
- The electrical connection is made by mean of a 15 mm connector DIN 43650 type C. The microswitch contact could be normally closed or open (change overswitch).

### Attenction

For this product are available only Technopolymer connections

G 1/4"	Ordering code
13 bar	
-5°C +50°C	T171BPP
gr. 138	
1A	
IP 65	
11 00	
2 -10 bar	
Indifferent	
G1/4" = 0 Nm	
G1/4 = 9 MIII	
250 VAC	
	13 bar -5°C +50°C gr. 138 1A IP 65 2 -10 bar Indifferent G1/4" = 9 Nm

Connection



### Flange X

Ordering code

T171X



Weight 12 gr. Example: T171X: Size 1 coupling flange -Enables the quick connnection of two functions

# Flange Y

Ordering code

T171Y



mounting dimensions

Weight 18 gr.
Example: T171Y: Size 1 coupling flange with mounting holes
- Used to couple together two elements and
to panel mount them.

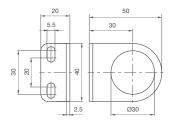
- Used to panel mount one single element.

### Fixing bracket

Ordering code

17150





Single unit panel

Weight 32 gr.
- Allows for regulators and filter regulators to be panel mounted.

### Pressure gauge

Ordering code

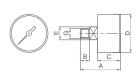
### 17070**V**.**⑤**

	VERSION
V	A = Dial Ø40
	B = Dial Ø50
	SCALE
8	A = Scale 0-4 bar
0	B = Scale 0-6 bar

C = Scale 0-12 bar



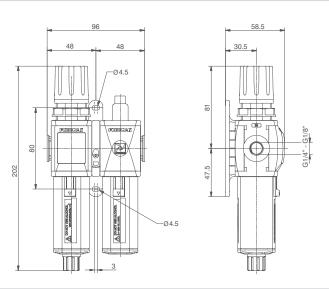




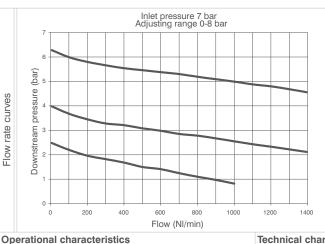
DIMENSIONS							
CODE	Α	В	С	D	Е	G	Weight gr.
17070A	44	10	26	41	14	1/8"	60
17070B	45	10	27	40	14	1/8"	80

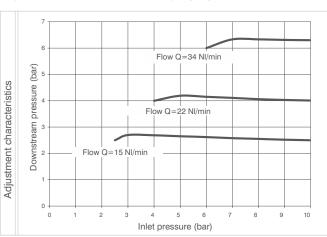
### Service unit assembled (EM+L) (E+L) (EW+L)





Example: GT171BHG: size 1, combined group comprising Filter-regulator and Lubricator, Technopolymer threads, G1/4" connections, 0 to 8 bar adjusting range and 20 µm filter pore size





### Operational characteristics

Combined group comprising Filter-regulator with built in manometer and Lubricator assembled with a (Y) type coupling kit for panel mounting.

Integrated manometer 0-12 bar as standard

(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

# Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

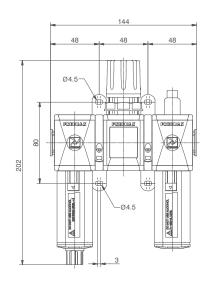
echnic	al char	acteris	stics

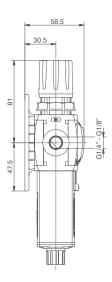
Connections	G 1/8" - G 1/4"	1/4" Ordering code		
Max. inlet pressure	13 bar			
Working temperature	-5°C +50°C		G <b>Ø</b> 171 <b>00</b> 00	
Weight with Technopolymer threads	gr. 328		VERSION	
Weight with threaded inserts	gr. 348	V	N = Metal inserts	
	0-2 bar / 0-4 bar		T = Technopolymer thread	
Pressure range			CONNECTIONS	
	0-8 bar / 0-12 bar	•	A = G1/8"(only for "N" version)	
Filter pore size	5 μm - 20 μm - 50 μm		B = G1/4"	
Bowl capacity	18 cm <sup>3</sup>	_	C = G1/4" NPT(only for "N" version)	
Indicative oil drip rate	1 drop every	0	TYPE	
		U	H = Built in gauge	
	300/600 NI	300/600 NI	J = G1/8" gauge connection	
Oil type	FD22 - HG32		FILTER PORE SIZE	
Bowl capacity	36 cm <sup>3</sup>		ADJUSTING RANGE C = 5 µm / 0-8 bar	
. ,		+ _	$D = 5 \mu m / 0.12 bar$	
Assembly positions	Vertical	8	$G = 20 \mu\text{m} / 0.8 \text{bar}$	
Max. fitting torque	O4/4II O N.		$H = 20 \mu\text{m} / 0-12 \text{bar}$	
(with Technopolymer threads)	G1/4" = 9 Nm		$N = 50 \mu \text{m} / 0.8 \text{bar}$	
Max. fitting torque	G1/8" = 15 Nm		$P = 50 \mu \text{m} / 0.12 \text{bar}$	
9 1			OPTIONS	
(with threaded inserts)	G1/4" = 20 Nm	0	= Standard *	
		-	S = Automatic drain	
		0	FLOW DIRECTION	
Min. operational flow at 6,3 bar	40 NI/min.		= Standard *	
			(from left to right)	
			W = from right to left	



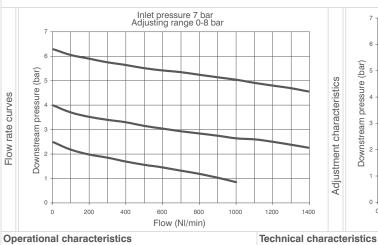
### Service unit assembled (F+RM+L) (F+R+L) (F+RW+L)

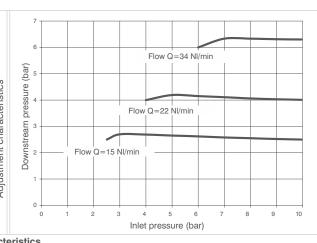






Example: GT171BKG: size 1 combined group comprising Filter, Regulator and Lubricator Technopolymer threads, G1/4" connections, 0 to 8 bar adjusting range and 20 µm filter pore size





40 NI/min.

Combined group comprising Filter, Regulator with built in manometer and Lubricator assembled with two (Y) type coupling kits for panel mounting.

Integrated manometer 0-12 bar as standard

(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

### Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

	Connections	G 1/8" - G 1/4"	
	Max. inlet pressure	13 bar	
	Working temperature	-5°C +50°C	
	Weight with Technopolymer threads	gr. 406	
	Weight with threaded inserts	gr. 436	V
	Pressure range	0-2 bar / 0-4 bar	
	riessule lange	0-8 bar / 0-12 bar	•
	Filter pore size	5 μm - 20 μm - 50 μm	•
	Bowl capacity	18 cm <sup>3</sup>	-
	Indicative oil drip rate	1 drop every	0
	indicative oil drip rate	300/600 NI	
	Oil type	FD22 - HG32	
	Bowl capacity	36 cm <sup>3</sup>	
	Assembly positions	Vertical	8
	Max. fitting torque	04/411 0.11	
	(with Technopolymer threads)	G1/4" = 9 Nm	
	Max. fitting torque	G1/8" = 15 Nm	
	(with threaded inserts)	G1/4" = 20 Nm	

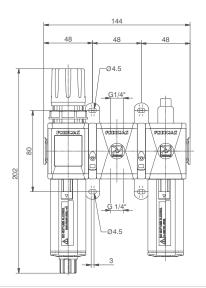
	Ordering code				
	G <b>Ø</b> 171 <b>⊝⊕</b> S⊙ <b>D</b>				
		VERSION			
	V	N = Metal inserts			
		T = Technopolymer thread			
		CONNECTIONS			
	•	A = G1/8" (only for "N" version)			
n	•	B = G1/4"			
		C = G1/4" NPT(only for "N" version)			
		TYPE			
	0	K = Built in gauge			
		T = G1/8" gauge connection			
		FILTER PORE SIZE			
		ADJUSTING RANGE			
		$C = 5 \mu m / 0-8 bar$			
	8	$D = 5 \mu m / 0-12 bar$			
	0	$G = 20 \mu\text{m} / 0-8 \text{bar}$			
		$H = 20 \mu m / 0-12 bar$			
		$N = 50 \mu m / 0.8 bar$			
		$P = 50  \mu m / 0 - 12  bar$			
		OPTIONS			
	0	= Standard *			
		S = Automatic drain			
		FLOW DIRECTION			
	0	= Standard			
	9	(from left to right)			
		W = from right to left			

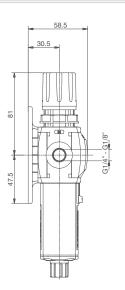
<sup>\*</sup> no additional letter required

Min. operational flow at 6,3 bar

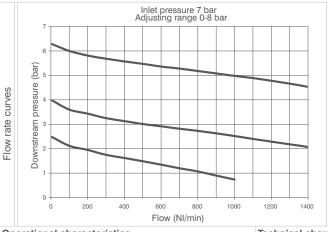
### Service unit assembled (EM+PA+L) (E+PA+L) (EW+PA+L)

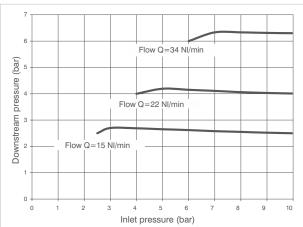






Example: GT171BNG: size 1 combined group comprising Filter-regulator, Air intake and Lubricator Technopolymer threads, G1/4" connections, 0 to 8 bar adjusting range and 20 µm filter pore size





### Operational characteristics

Combined group comprising Filter-regulator with built in manometer, Air intake and Lubricator assembled with two (Y) type coupling kits for panel mounting.

Integrated manometer 0-12 bar as standard

# (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range) ${\bf Note}$

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

### Technical characteristics

Adjustment characteristics

	Connections	G 1/8" - G 1/4"		Ordering code
	Max. inlet pressure	13 bar		
	Working temperature -5°C +50°		G <b>Ø</b> 171 <b>00</b> 900	
	Weight with Technopolymer threads	gr. 398		VERSION
	Weight with threaded inserts	gr. 418		N = Metal inserts
		0-2 bar / 0-4 bar		T = Technopolymer thread
	Pressure range			CONNECTIONS
		0-8 bar / 0-12 bar	•	A = G1/8" (only for "N" version)
	Filter pore size	5 μm - 20 μm - 50 μm		B = G1/4"
	Bowl capacity	18 cm <sup>3</sup>	-	C = G1/4" NPT(only for "N" version) TYPE
		1 drop every	0	N = Built in gauge
	Indicative oil drip rate		•	P = G1/8" gauge connection
		300/600 NI	_	FILTER PORE SIZE
	Oil type	FD22 - HG32		ADJUSTING RANGE
	Bowl capacity	36 cm <sup>3</sup>		$C = 5 \mu m / 0.8 \text{ bar}$
	Assembly positions	Vertical	8	$D = 5 \mu \text{m} / 0 - 12 \text{bar}$
	Max. fitting torque			$G = 20  \mu \text{m} / 0-8  \text{bar}$
	0 1	G1/4" = 9 Nm		$H = 20 \mu m / 0-12 bar$
	(with Technopolymer threads)			$N = 50 \mu m / 0-8 bar$
	Max. fitting torque	G1/8" = 15 Nm		P = 50 μm / 0-12 bar
	(with threaded inserts)	G1/4" = 20 Nm		OPTIONS
	(mar an edded meerte)	G171 201111	0	= Standard *
				S = Automatic drain
ľ	Min. operational flow at 6,3 bar	40 NII/a-i-		FLOW DIRECTION
	Operational now at 6,3 bar	40 NI/min.	0	= Standard
				(from left to right)
				W = from right to left

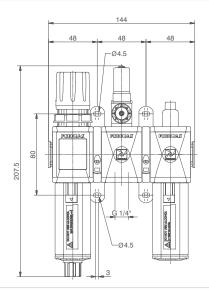
<sup>\*</sup> no additional letter required

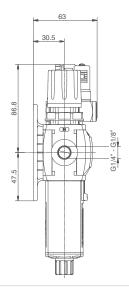
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### Service unit assembled (EM+PP+L) (E+PP+L) (EW+PP+L)

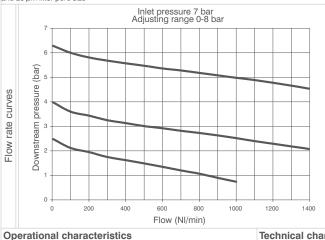


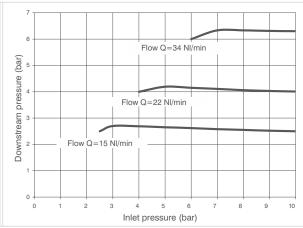




Example: GT171BRG: size 1 combined group comprising Filter-Regulator, Pressure switch and Lubricator Technopolymer threads, G1/4" connections 0 to 8 bar adjusting range and 20  $\mu$ m filter pore size

Adjustment characteristics





Combined group comprising Filter-regulator with built in manometer, Pressure switch and Lubricator assembled with two (Y) type coupling kits for panel mountings. Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range) Note

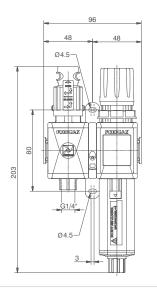
The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

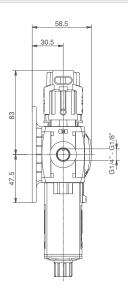
Technical characteristics			
Connections	G 1/8" - G 1/4"		Ordering code
Max. inlet pressure	13 bar		
Working temperature	-5°C +50°C	G <b>Ø</b> 171 <b>00</b> 00	
Weight with Technopolymer threads	gr. 484		VERSION
Weight with threaded inserts	ar. 504	V	N = Metal inserts
			T = Technopolymer thread
Pressure range	13 bar  -5°C +50°C  gr. 484  gr. 504  0-2 bar / 0-4 bar  0-8 bar / 0-12 bar  5 μm - 20 μm - 50 μm  18 cm³  1 drop every  300/600 NI  FD22 - HG32  36 cm³  Vertical  G1/4" = 9 Nm  G1/4" = 20 Nm  40 NI/min.  GW171 ● G00  VERSION  N = Metal inserts  T = Technopolymer thread  CONNECTIONS  A = G1/8" (only for 'N' version)  B = G1/4"  R = Built in gauge  C = G1/8" gauge connection  FILTER PORE SIZE  ADJUSTING RANGE  C = 5 μm / 0-8 bar  H = 20 μm / 0-12 bar  G = 20 μm / 0-8 bar  P = 50 μm / 0-12 bar  OPTIONS  S = Standard *  S = Automatic drain  FLOW DIRECTION  S = Standard		
	0-8 bar / 0-12 bar		
Filter pore size	5 μm - 20 μm - 50 μm		· · · · · · · · · · · · · · · · · · ·
Bowl capacity	18 cm <sup>3</sup>	_	
Indicative oil drip rate		-	
	1 drop every	U	
	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar 5 \( \mu\) m - 20 \( \mu\) m - 50 \( \mu\) m 18 \( \mu\) a '' 300/600 NI FD22 - HG32 36 \( \mu\) a '' = 9 Nm  and the control of the c		
Oil type	FD22 - HG32		
**		-	
Bowl capacity	36 cm <sup>3</sup>		$C = 5 \mu \text{m} / 0-8 \text{bar}$
Assembly positions	Vertical	8	$D = 5 \mu \text{m} / 0 - 12 \text{bar}$
Max. fitting torque		_	$G = 20 \mu m / 0-8 bar$
	G1/4" = 9 Nm		H = 20 μm / 0-12 bar
(with Technopolymer threads)	<u> </u>		$N = 50  \mu m / 0-8  bar$
Max. fitting torque	G1/8" = 15 Nm		P = 50 μm / 0-12 bar
(with threaded inserts)	G1/4" = 20  Nm		OPTIONS
(With threaded moets)	G1/4 - 2014111	•	= Standard *
			S = Automatic drain
			FLOW DIRECTION
Min. operational flow at 6,3 bar	40 NI/min.		= Standard
		9	(from left to right)

*	no	ac	ddi	ioit	nal
I	ette	er r	eq	uir	ed

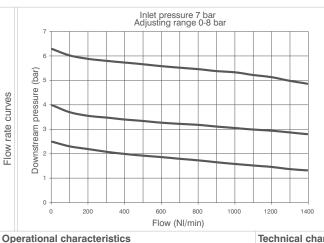
(from left to right) W = from right to left

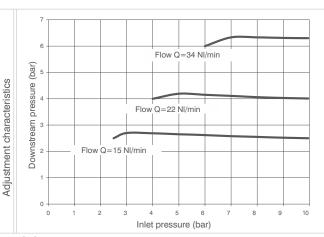
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Example: GT171BVGG: size 1 combined group comprising Shut-off valve, Filter-regulator Technopolymer threads, G1/4" connections 0 to 8 bar adjusting range and 20 µm filter pore size





Combined group comprising manual shut-off valve, Filter regulator with built in manometer, assembled with one (Y) type coupling kit for panel mountings.

Integrated manometer 0-12 bar as standard

(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

### Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

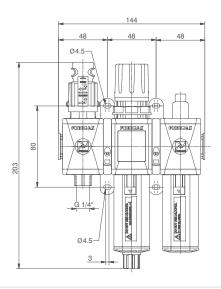
echnical	characteristics
`onnoction	6

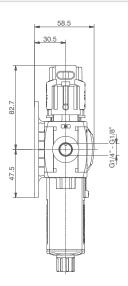
Connections	G 1/8" - G 1/4"		Ordering code
Max. inlet pressure	13 bar		9
Working temperature	-5°C +50°C		G <b>Ø</b> 171 <b>@@©©</b>
Weight with Technopolymer threads	gr. 318		VERSION
Weight with threaded inserts	gr. 338	V	N = Metal inserts
	0-2 bar / 0-4 bar		T = Technopolymer thread CONNECTIONS
Pressure range	0-8 bar / 0-12 bar	0	A = G1/8" (only for "N" version)
Filter pore size	5 μm - 20 μm - 50 μm	9	B = G1/4"
Bowl capacity	18 cm <sup>3</sup>		C = G1/4" NPT(only for "N" version)
Down dapatolity		-	TYPE
Indicative oil drip rate	1 drop every	•	VG = Built in gauge
	300/600 NI		VU = G1/8" gauge connection
Oil type	FD22 - HG32		FILTER PORE SIZE ADJUSTING RANGE
Bowl capacity	36 cm <sup>3</sup>		$C = 5 \mu \text{m} / 0.8 \text{ bar}$
Assembly positions	Vertical	6	$D = 5 \mu \text{m}  /  0\text{-}12  \text{bar}$
Max. fitting torque			G = 20 μm / 0-8 bar
0 1	G1/4" = 9 Nm		$H = 20 \mu m / 0-12 bar$
(with Technopolymer threads)			$N = 50 \mu m / 0-8 bar$
Max. fitting torque	G1/8" = 15 Nm		$P = 50 \mu m / 0-12 bar$
(with threaded inserts)	G1/4" = 20 Nm		OPTIONS
(With theaded hiserts)	G1/4 = 20 NIII	•	= Standard *
			S = Automatic drain
			FLOW DIRECTION
Min. operational flow at 6,3 bar	40 NI/min.	•	= Standard
		•	(from left to right)
			W = from right to left

\* no additional letter required

### Service unit assembled (VL+EM+L) (VL+E+L) (VL+EW+L)

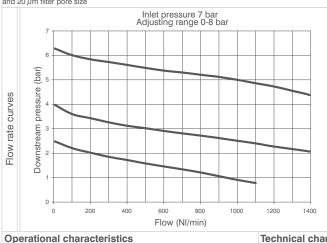


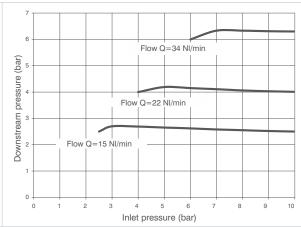




Example: GT1718VHG: size 1 combined group comprising Shut-off valve, Filter-regulator and Lubricator Technopolymer threads, G1/4" connections 0 to 8 bar adjusting range and 20  $\mu$ m filter pore size

Adjustment characteristics





Combined group comprising manual shut-off valve, Filter regulator with built in manometer and Lubricator assembled with two(Y) type coupling kits for panel mountings. Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

### Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

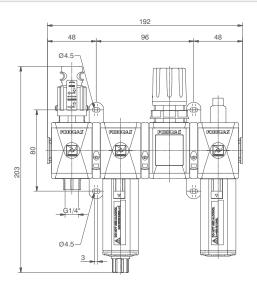
Technical characteristics			
Connections	G 1/8" - G 1/4"		Ordering code
Max. inlet pressure	13 bar		
Working temperature	-5°C +50°C		G <b>Ø</b> 171 <b>00</b> 900
Weight with Technopolymer threads	gr. 446		VERSION
Weight with threaded inserts	gr. 476	V	N = Metal inserts
	0-2 bar / 0-4 bar		T = Technopolymer thread
Pressure range	0-8 bar / 0-12 bar		CONNECTIONS  A = G1/8" (only for "N" version)
Filter pore size	5 μm - 20 μm - 50 μm	0	B = G1/4"
'	18 cm <sup>3</sup>		C = G1/4" NPT(only for "N" version)
Bowl capacity		+ _	TYPE
Indicative oil drip rate	1 drop every	0	VH = Built in gauge
Indicative oil drip rate	300/600 NI		VJ = G1/8" gauge connection
Oil type	FD22 - HG32		FILTER PORE SIZE
Bowl capacity	36 cm <sup>3</sup>	-	ADJUSTING RANGE
1 7		_	$C = 5 \mu \text{m} / 0.8 \text{bar}$
Assembly positions	Vertical	8	$D = 5 \mu m / 0-12 bar$
Max. fitting torque			$G = 20 \mu\text{m} / 0-8 \text{bar}$
(with Technopolymer threads)	G1/4" = 9 Nm		$H = 20 \mu\text{m} / 0.12 \text{bar}$
, , ,	0.4/0" 45.11	-	$N = 50 \mu\text{m} / 0.8 \text{ bar}$ $P = 50 \mu\text{m} / 0.12 \text{ bar}$
Max. fitting torque	G1/8" = 15 Nm		$P = 50 \mu\text{m} / 0-12 \text{bar}$ OPTIONS
(with threaded inserts)	G1/4" = 20 Nm	0	= Standard *
			S = Automatic drain
			FLOW DIRECTION
Min. operational flow at 6,3 bar	40 NI/min.		= Standard
		0	(from left to right)
			W = from right to left
		-	-

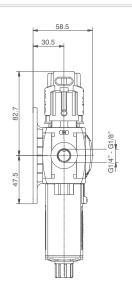
*	no additiona	ıl
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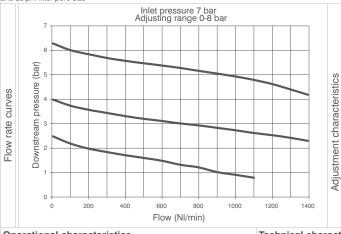
### Service unit assembled (VL+F+RM+L)(VL+F+R+L)(VL+F+RW+L)

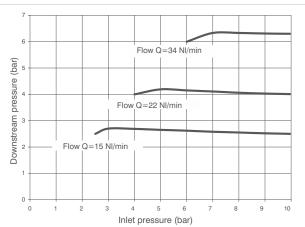






Example: GT171BVKG: size 1 combined group comprising Shut-off valve, Filter, Regulator and Lubricator Technopolymer threads, G1/4" connections 0 to 8 bar adjusting range and 20 µm filter pore size





### Operational characteristics

Combined group comprising manual shut - off valve, Filter, Regulator with built in manometer and Lubricator, assembled with two (Y) type coupling kits for panel mounting and one (X) type coupling kit.

Integrated manometer 0-12 bar as standard

(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)  $\,$ 

### Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

### Technical characteristics

Connections	G 1/8" - G 1/4"	
Max. inlet pressure	13 bar	
Working temperature	-5°C +50°C	
Weight with Technopolymer threads	gr. 518	T
Weight with threaded inserts	gr. 558	
Pressure range	0-2 bar / 0-4 bar	$\vdash$
Tressure range	0-8 bar / 0-12 bar	0
Filter pore size	5 μm - 20 μm - 50 μm	
Bowl capacity	18 cm <sup>3</sup>	-
Indicative oil drip rate 1 drop every	1 drop every	•
indicative on drip rate	300/600 NI	L
Oil type	FD22 - HG32	
Bowl capacity	36 cm <sup>3</sup>	
Assembly positions	Vertical	6
Max. fitting torque	C1/4II O NI	] `
(with Technopolymer threads)	G1/4" = 9 Nm	
Max. fitting torque	G1/8" = 15 Nm	L
(with threaded inserts)	G1/4" = 20 Nm	
		1
Min. operational flow at 6,3 bar	40 NI/min.	
		0

# Ordering code GØ171@@S@@

# N = Metal inserts T = Technopolymer thread CONNECTIONS A = G1/8" (only for "N" version) B = G1/4"

VERSION

# $C = G1/4" \ NPT(only for \ "N" \ version)$ TYPE VK = Built in gauge $VT = G1/8" \ gauge \ connection$

FILTER PORE SIZE

# ADJUSTING RANGE C = 5 μm / 0-8 bar D = 5 μm / 0-12 bar G = 20 μm / 0-8 bar H = 20 μm / 0-12 bar N = 50 μm / 0-8 bar

3

 $H = 20 \mu m / 0.12 \text{ bar}$   $N = 50 \mu m / 0.8 \text{ bar}$   $P = 50 \mu m / 0.12 \text{ bar}$ OPTIONS

Standard \*

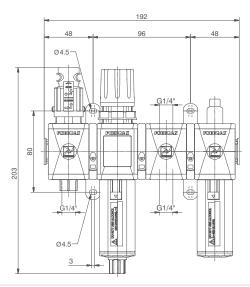
S = Automatic drain
FLOW DIRECTION
= Standard
(from left to right)
W = from right to left

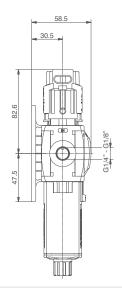
<sup>\*</sup> no additional letter required



### Service unit assembled (VL+EM+PA+L) (VL+E+PA+L) (VL+EW+PA+L)

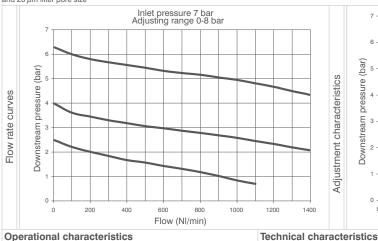


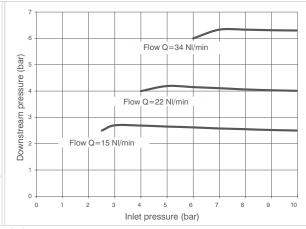




Example : GT171BVNG : size 1 combined group comprising Shut-off valve, Filter-regulator, Air intake and Lubricator Technopolymer threads, G1/4" connections 0 to 8 bar adjusting range and 20  $\mu$ m filter pore size

Adjustment characteristics





### Operational characteristics

Combined group comprising manual shut-off valve, Filter regulator with built in manometer, Air intake and Lubricator, assembled with two (Y) type coupling kits for panel mounting and one (X) type coupling kit.

Integrated manometer 0-12 bar as standard

(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

### Note

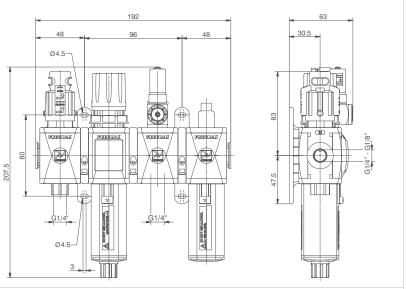
The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

lechnical characteristics			
Connections	G 1/8" - G 1/4"		Ordering code
Max. inlet pressure	13 bar		-
Working temperature	-5°C +50°C		G <b>Ø</b> 171 <b>00</b> 00
Weight with Technopolymer threads	gr. 510		VERSION
Weight with threaded inserts	gr. 540	V	N = Metal inserts
Pressure range	0-2 bar / 0-4 bar		T = Technopolymer thread CONNECTIONS
	0-8 bar / 0-12 bar	•	A = G1/8" (only for "N" version) B = G1/4"
Filter pore size	5 μm - 20 μm - 50 μm		C = G1/4" NPT(only for "N" version)
Bowl capacity	18 cm <sup>3</sup>		TYPE
Indicative oil drip rate	1 drop every	0	VN = Built in gauge
indicative oil drip rate	300/600 NI		VP = G1/8" gauge connection
Oil type	FD22 - HG32		FILTER PORE SIZE
Bowl capacity	36 cm <sup>3</sup>		ADJUSTING RANGE C = 5 µm / 0-8 bar
Assembly positions	Vertical	8	$D = 5 \mu m / 0-12 bar$
Max. fitting torque		•	G = 20 μm / 0-8 bar
0 1	G1/4" = 9 Nm		H = 20 μm / 0-12 bar
(with Technopolymer threads)			$N = 50 \mu m / 0.8 bar$
Max. fitting torque	G1/8" = 15 Nm		P = 50 μm / 0-12 bar
(with threaded inserts)	G1/4" = 20 Nm		OPTIONS
(**************************************	2007	•	= Standard *
			S = Automatic drain
Min. operational flow at 6,3 bar	40 NII/min		FLOW DIRECTION
iviiii. Operational now at 6,3 bar	(1)		= Standard
			(from left to right)
			W = from right to left

<sup>\*</sup> no additional letter required

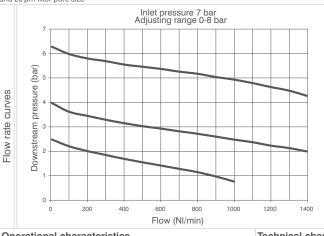
### Service unit assembled (VL+EM+PP+L) (VL+E+PP+L) (VL+EW+PP+L)

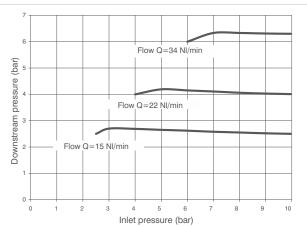




Example: GT171BVRG: size 1 combined group comprising Shut-off valve, Filter-regulator, Pressure switch and Lubricator Technopolymer threads, G1/4" connections adjusting range 0 to 8 bar and 20  $\mu$ m filter pore size

Adjustment characteristics





### Operational characteristics

Combined group comprising manual shut-off valve, Filter regulator with built in manometer, Pressure switch and Lubricator, assembled with two (Y) type coupling kits for panel mounting and one (X) type coupling kit.

Integrated manometer 0-12 bar as standard

(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

# Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

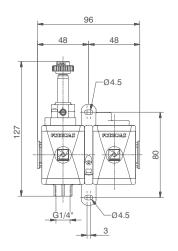
Technical characteristics			
Connections	G 1/8" - G 1/4"		Ordering code
Max. inlet pressure	13 bar		
Working temperature	-5°C +50°C		G <b>Ø</b> 171 <b>00</b> 000
Weight with Technopolymer threads	gr. 596		VERSION
Weight with threaded inserts	gr. 626	V	N = Metal inserts
Transfer tra	0-2 bar / 0-4 bar		T = Technopolymer thread
Pressure range			CONNECTIONS
	0-8 bar / 0-12 bar	GØ171 ● GØ ●  VERSION  N = Metal inserts T = Technopolymer thread CONNECTIONS  A = G1/8" (only for "N" version) B = G1/4" NPT(only for "N" version)  TYPE  VR = Built in gauge VC = G1/8" gauge connection FILTER PORE SIZE ADJUSTING RANGE C = 5 µm / 0-8 bar D = 5 µm / 0-12 bar G = 20 µm / 0-8 bar N = 50 µm / 0-12 bar N = 50 µm / 0-8 bar P = 50 µm / 0-12 bar OPTIONIS	
Filter pore size	5 μm - 20 μm - 50 μm	9	
Bowl capacity			
Down capacity		-	
Indicative oil drip rate	1 drop every	1 drop every	
indicative on any rate	5 μm - 20 μm - 50 μm  18 cm³  1 drop every 300/600 NI  FD22 - HG32 36 cm³	VC = G1/8" gauge connection	
Oil type	FD22 - HG32		
**		_	ADJUSTING RANGE
Bowl capacity	36 cm <sup>3</sup>		$C = 5 \mu \text{m} / 0-8 \text{bar}$
Assembly positions	Vertical	9	$D = 5 \mu m / 0-12 bar$
Max. fitting torque		_	$G = 20 \mu m / 0-8 bar$
	G1/4" = 9 Nm		$H = 20  \mu \text{m} / 0 - 12  \text{bar}$
(with Technopolymer threads)			$N = 50  \mu \text{m} / 0-8  \text{bar}$
Max. fitting torque	G1/8" = 15 Nm		$P = 50  \mu \text{m} / 0 - 12  \text{bar}$
(with threaded inserts)	G1/4" = 20 Nm		OPTIONS
(with threaded inserts)	G1/4 = 20 MIII	•	= Standard *
			S = Automatic drain
			FLOW DIRECTION
Min. operational flow at 6,3 bar	40 NI/min.		= Standard
			(f 1 . ft . t

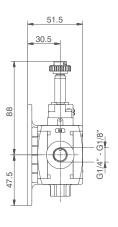
W = from right to left \* no additional letter required

(from left to right)

### Service unit assembled (VE+AP)

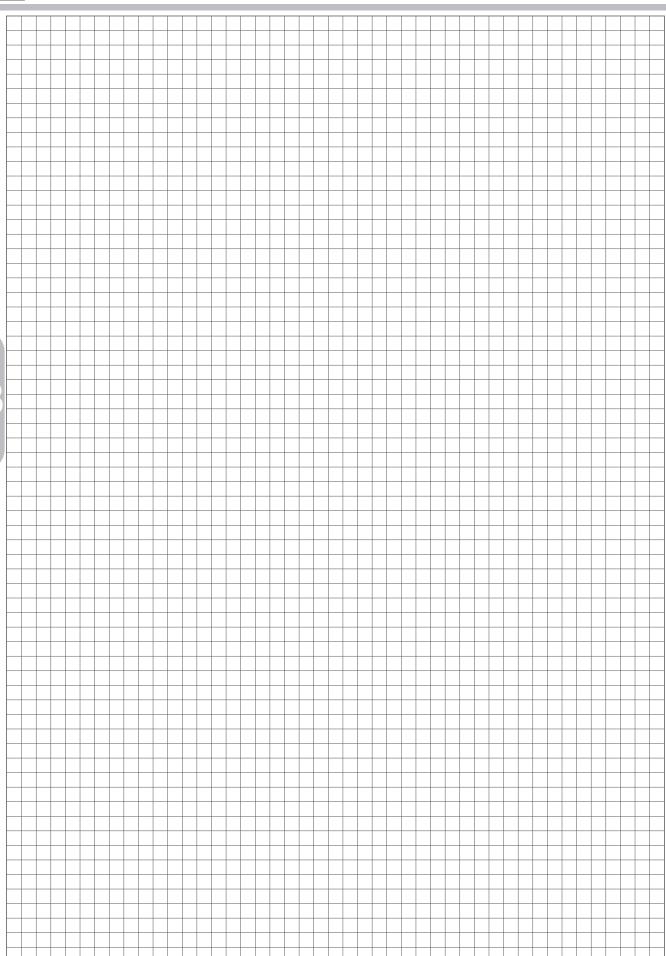






Example: GT171BSB2: size 1 combined group comprising Electric shut-off valve, Progressive start-up valve without coil with M2 pilot Technopolymer threads, G1/4" connections

Operational characteristics	Technical characteristics		
Combined group comprising Electric shut-off valve and	Connections	G 1/8" - G 1/4"	Ordering code
Progressive start-up valve assembled with a (Y) type	Max. inlet pressure	10 bar	
coupling kit for panel mounting.	Min. inlet pressure	3 bar	G <b>Ø</b> 171 <b>@</b> S <b>Ø</b>
	Working temperature	-5°C +50°C	VERSION
	Weight with Technopolymer threads	gr. 218	N = Metal inserts
	Weight with threaded inserts	gr. 238	T = Technopolymer threa
	<u> </u>		CONNECTIONS
	Assembly positions	Indifferent	A = G1/8"  (only for "N" version) $B = G1/4"$
	Max. fitting torque	G1/4" = 9 Nm	C = G1/4" NPT(only for "N" ve
	(with Technopolymer threads)	G1/1 - 014111	15 mm COIL VOLTAGE
	Max. fitting torque	G1/8" = 15 Nm	A4 = 12 V DC
	(with threaded inserts)	G1/4" = 20 Nm	A5 = 24 V DC
	(War throaded moorte)	3171 = 2014111	A6 = 24 V AC (50-60 Hz)
		A7 = 110 V AC (50-60 Hz	
			A8 = 220 V AC (50-60 Hz
			A9 = 24 V DC (1 Watt)
			22 mm COIL VOLTAGE
			B2 = Without coil
			M2 mechanic
			A B4 = 12 V DC
			B5 = 24 V DC
	Flow at 6 bar with $\Delta p=1$	th Δp=1 1200 NI/min.	B6 = 24 V AC (50-60 Hz)
			B7 = 110 V AC (50-60 H:
			B8 = 220 V AC (50-60 H:
			B9 = 24 V DC (2 Watt)
			30 mm COIL VOLTAGE
			C5 = 24 V DC
			C6 = 24 V AC (50-60 Hz
			C7 = 110 V AC (50-60 H
			C8 = 230 V AC (50-60 H
			C9 = 24 V DC (2 Watt)





### Construction and working characteristics

The new FRL units AIRPLUS series represents the evolution of the well known and consolidated 1700 series.

The main features are increased performances, reliability, easy and fast assembly and the introduction of the latest technical features.

With the exception of the air intake module and the pressure switch module all elements are available in two configurations: with technopolimer connections (IN and OUT), (T series), or with metal threaded inserts, (N series). Bowls made of transparent polycarbonate (PC) are fitted with a bowl protection guard which is assembled on the body via a quick coupling mechanism provided with a safety button. The filter, available with three filtration grades (5µm, 20µm and 50µm) is fitted as standard with a drain mechanism which can be operated manually or semiautomatically. On request is available the auto-drain mechanism. The regulator is based on the rolling diaphragm technology with low hysteresis and the system is balanced. The unit can be fitted with integrated flush mounting pressure gauge (0 to 12 bar range). 4 pressure ranges are available going from 0 to 12 bar and the regulating knob can be blocked in position simply by pressing it down. A dedicated version is available for battery mounting, up to a maximum of 6 units. The lubricator is based on the Venturi principle and the oil quantity is regulated via the adjusting screw positioned don the transparent polycarbonate (PC) regulating dome which also ensure clear visibility of the oil flow and regulation. The oil suction pipe is fitted as standard with a sintered filter which ensures that any contaminant that should be present in the oil will reach the down stream circuit. Shoot off valve is available in two versions, one manually operated and one solenoid operated. In both cases the unit is fitted with a threaded connection for depressurising the downstream circuit. On the manually operated version, in the lock position, it is possible to fit up to three locks in order to prevent the accidental pressurization of the pneumatic circuit avoiding accidents or damages. The solenoid operated version is available with a 15mm or with a 22mm solenoid valve. The soft start valve ensure a progressive pressurization of the down stream circuit avoiding sudden pressure surges which could be dangerous for the devices fitted on the down stream circuit. The filling time can be easily adjusted via a built in flow regulator. The full flow rate is allowed only once the down stream pressure has reached 50% of the value of the inlet pressure. The pressure switch module which can be set between 2 and 10 bar and the air intake module complete the range.

The elements are joint together via dedicated quick coupling technopolimer flanges which allows for the units to be panel mounted moreover ensure the possibility to replace any component without disassembling the FRL group from its position.

90° mounting brackets and standard gauges are also available.

### Instruction for installation and operation

The FRL unit must be installed as close as possible to the application. The air flow direction must follow the directions indicated on the single units in correspondence of the threaded connections. (IN and OUT)

Units provided with bowl must be mounted vertically with the bawl facing down. Single units or groups can be panel mounted via the Y type flanges, regulators and filter-regulators can be mounted via the 90° zinc plated steel bracket. In order to mount the 90° bracket it is necessary to remove the regulating knob and then the locking ring before positioning the bracket. All units must be operated according to the specified pressure and temperature ranges; fittings must be mounted without exciding the maximum torque allowed. Ensure that the units cover plates are in position before pressure is applied. The cover plates are needed to lock in position the top part of the unit.

The condense level in filer and filter-regulators bowls must never exceed the maximum level indicated on the bowls. With manual or semi automatic drain the condense can be discharged via a 6/4mm tube directly connected to the drain tap. On the pressure regulator the pressure value must always set wile pressure is rising and ideally the unit pressure range should be chosen based on the pressure value to be regulated. Lubricators must be filled with class FD22 and HG32 oils. Ensure, both on the inlet and on the outlet, that the flow rate is above the minimum flow rate required to operate the unit. Below this value the units does not operate. The oil quantity can be regulated via the regulating screw on the transparent polycarbonate dome through which it is also clearly visible the oil flow. A drop every 300-600 litres should be allowed.

The oil can be re-filled while the pneumatic circuit is pressurized thanks to the exhaust valve which is built in the refill plug and allows for the bowl to be depressurized and the oil refill directly form in the bowl or from the plug. The manual shot off valve needs, to be operated, a push and turn action (clockwise) in order to close it and discharge the down stream circuit it is necessary to turn anti clock wise the knob. The soft start valve is used to slowly and progressively pressurize the down stream circuit, the time needed to do so can be set by means of the built in flow regulator. The soft start valve on its own does not allow for the down stream circuit to be discharged, in order to do so it is necessary to combine it with a shot off valve (to be mounted upstream).

### Maintenance



For any maintenance which requires the removal of the top plugs/ supports from the body it is necessary to preventively remove the sides cover plates. If the top plugs\supports are removed with the sides plates still in their position the unit could be permanently damaged.

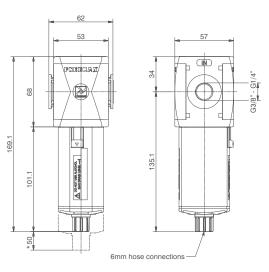
Bowls, plugs and supports are assembled with a bayonet type mechanism. In order to remove them rotate anti clockwise until the mechanical stop is reached and than remove from the body (for the bowls firstly press down the green safety button). Bowls and transparent parts can be cleaned with water and neutral soap. Do not use solvents or alcohol.

Filtering elements (from filters and filter regulators) made of HDPE can be regenerated by washing and blowing them. In order to remove them it is necessary to remove the bowl unscrew the filter element and replace it with a new one or clean it. The oil can be re-filled while the pneumatic circuit is pressurized thanks to the exhaust valve which is built in the refill plug and allows for the bowl to be depressurized. In order to be able to unmount the bowl it is necessary unscrew the refill plug positioned near the oil dome, once this operation has been carried out it is possible to remove the bowl to re fill it or to refill from the refill plug. Refilling directly the bowl is suggested.

Should the pressure regulator not perform properly or should present a constant leackage from the relieving replaced the diaphragm by unloading completely the regulating spring before removing the regulation support. Any other maintenance operation, in consideration of the complexity of the assembly, and the need of a through test according to the Pneumax spa specification, should be carried out by the manufacturer.

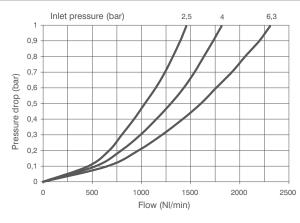
### Fittings maximum recommended torque applicable

THREAD	Technopolymer version (T)	Metal version (N)
G1/8"	4 Nm	15 Nm
G1/4"	9 Nm	20 Nm
G3/8"	16 Nm	25 Nm
G1/2"	22 Nm	30 Nm



\*Bowl removal maximum height

Example: T172BFB: size 2, Filter with Technopolymer threads, G3/8" connections, 20  $\mu$ m filter pore size



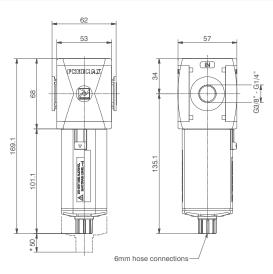
### Operational characteristics **Technical characteristics** Double filtering action: air flow centrifugation and filter element G 1/4" - G 3/8" Connections Ordering code Filtering element made of HDPE (high density polyethylene) Max. inlet pressure 13 bar **Ø**172**@**F**◎⊚** available in three different filtration grades (5 $\mu$ m, 20 $\mu$ m and Minimum working pressure 0,5 bar $50\mu\text{m}$ ) can be regenerated by washing it or replaced. with automatic drain VERSION N = Metal inserts Transparent bowl made off polycarbonate with Maximum working pressure 10 bar T = Technopolymer thread bowl protection guard. with automatic drain CONNECTIONS -5°C +50°C Bowl assembly via bayonet type quick coupling Working temperature A = G1/4"(only for "N" version) B = G3/8" Weight with Technopolymer threads gr. 220 mechanism with safety button. C = G3/8" NPT(only for "N" version) gr. 230 Semi-automatic drain mounted as standard; Weight with threaded inserts FILTER PORE SIZE automatic drain upon request. 5 $\mu$ m - 20 $\mu$ m - 50 $\mu$ m Filter pore size $A = 5 \mu m$ 34 cm<sup>3</sup> $B = 20 \,\mu m$ Bowl capacity Note $C = 50 \,\mu m$ In order to ensure adequate flow on the auto drain version it is Assembly positions Vertical OPTIONS recommended to use minimum a 6mm fitting. Max. fitting torque = Standard \* G3/8" = 16 Nm S = Automatic drain (with Technopolymer threads) Max. fitting torque G1/4" = 20 Nm (with threaded inserts) G3/8" = 25 Nm

\* no additional letter required

3

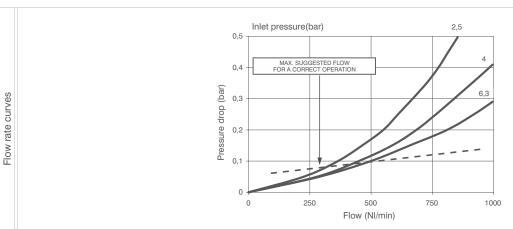
Flow rate curves

Coalescing filter (D)

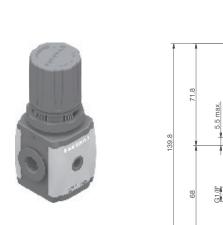


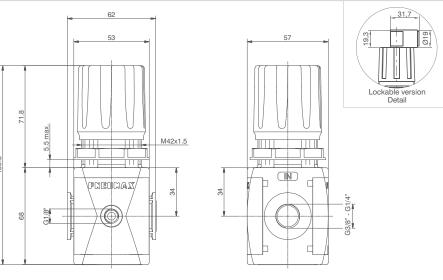
\*Bowl removal maximum height

Example: T172BDA: Coalescing filter size 2, with Technopolymer threads, G3/8" connections, filter efficency 99,97%

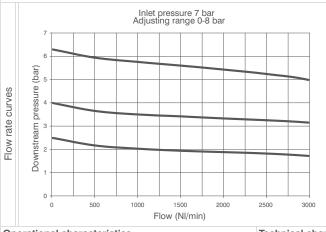


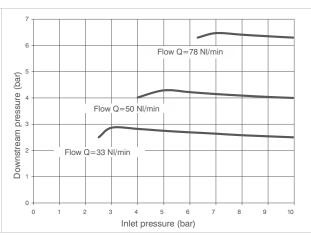
Operational characteristics	Technical characteristics			
Coelesing filter element with filtration grade of $0.01\mu m$	Connections	G 1/4" - G 3/8"		Ordering code
Transparent bowl made off polycarbonate with	Max. inlet pressure	13 bar		
bowl protection guard.	Minimum working pressure	0,5 bar		<b>Ø</b> 172 <b>@</b> D <b>⊜®</b>
Bowl assembly via bayonet type quick coupling	with automatic drain	0,5 bai		VERSION
mechanism with safety button.	Maximum working pressure	40.1	V	N = Metal inserts
Semi-automatic drain mounted as standard;	with automatic drain	10 bar		T = Technopolymer thread
automatic drain upon request.	Working temperature	-5°C +50°C		A = G1/4"(only for "N" version)
Note	Weight with Technopolymer threads	gr. 225	•	B = G3/8"
n order to ensure a better grade of filtration it is recommended	Weight with threaded inserts	gr. 235		C = G3/8" NPT(only for "N" version
o use a 5 $\mu$ m filter before the coalescing filter. In order to ensure		g.: 200	(3	FILTER EFFICIENCY A = 99,97%
dequate flow on the auto drain version it is recommended to	with 0,01 μm particle	99,97%		OPTIONS
•	Bowl capacity	34 cm <sup>3</sup>	0	= Standard *
se minimum a 6mm fitting.	' '			S = Automatic drain
	Assembly positions	Vertical		
	Max. fitting torque	G3/8" = 16 Nm		
	(with Technopolymer threads)	G0/0 - 10 14111		
	Max. fitting torque	G1/4" = 20 Nm		
	(with threaded inserts)	G3/8" = 25 Nm		





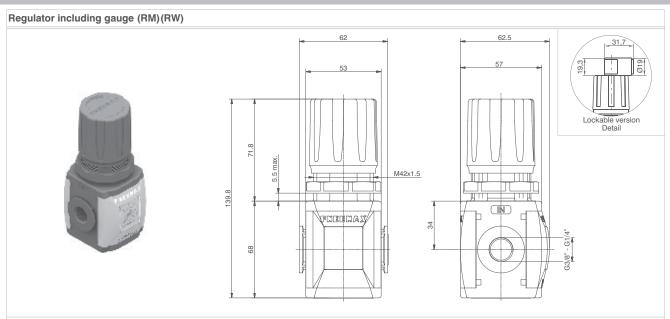
Example: T172BRC: size 2, Regulator with Technopolymer threads, G3/8" connections, 0 to 8 bar adjusting range



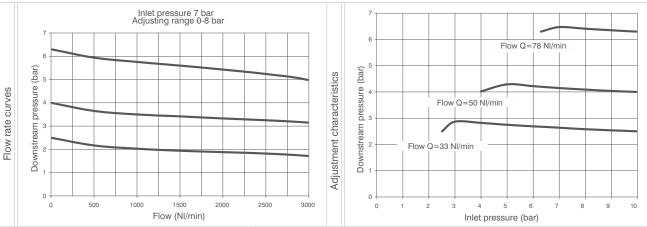


- Low hysteresis rolling diaphragm.  - Balanced system.  - Available in four pressure ranges up to 12 bar.  - Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure)  - Fitted with panel mounting locking ring.  Note  Assembly positions  Max. fitting torque  Max. fitting torque  Max. fitting torque  Max. inlet pressure  13 bar  -5°C +50°C  10  VERS  VERS  N = N  CONN  N = N  T = Te  CONN  N = N  T = Te  CONN  Max. fitting torque  (with Technopolymer threads)  Assembly positions  Max. fitting torque  Gal/4" = 20 Nm  Max. fitting torque  Gal/4" = 20 Nm	
- Low hysteresis rolling diaphragm.  - Balanced system.  - Available in four pressure ranges up to 12 bar.  - Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure)  - Fitted with panel mounting locking ring.  Note  Assembly positions  Max. fitting torque  Max. fitting torque  Max. fitting torque  Max. inlet pressure  13 bar  -5°C +50°C  10  VERS  VERS  N = N  CONN  N = N  T = Te  CONN  N = N  T = Te  CONN  Max. fitting torque  (with Technopolymer threads)  Assembly positions  Max. fitting torque  Gal/4" = 20 Nm  Max. fitting torque  Gal/4" = 20 Nm	ering code
- Available in four pressure ranges up to 12 bar.  - Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.  - Fitted with panel mounting locking ring.  Note  Assembly positions  Meight with Technopolymer threads  Weight with Technopolymer threads  G 1/8"  VERSIVE  Note  Weight with Technopolymer threads  Assembly positions  Max. fitting torque  (with Technopolymer threads)  Max. fitting torque  G 1/8"  ADJULT  ADJULT  A 20 Nm  WEIGHT  WERSURE gauge connections  G 1/8"  VERSIVE  Note  A 1 = 10  B - 0  C - 0  C - 0  D - 0  TYPE  S - C - 0  D - 0  TYPE  S - C - 0  D - 0  TYPE  Max. fitting torque  Max. fitting torque  G 1/4" = 20 Nm	
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved Fitted with panel mounting locking ring.  Note  Assembly positions  Max. fitting torque  Max. fitting torque  Meight with Technopolymer threads  gr. 300  Note  Pressure range  O-2 bar / 0-4 bar O-8 bar / 0-12 bar  Indifferent  ADJU! A = 0 B = 0 C = 0 D = 0 TYPE  S = S F = C D Max. fitting torque	′2 <b>0</b> R <b>00</b> 0
down once the desired P2 (regulated pressure) pressure value is achieved Fitted with panel mounting locking ring.  Note  Assembly positions  Max. fitting torque  Max. fitting torque  Meight with readed inserts  Gr. 310  O-2 bar / 0-4 bar O-8 bar / 0-12 bar  D-2 bar / 0-4 bar O-8 bar / 0-12 bar  ASSEMBLY positions  Indifferent  Max. fitting torque  (with Technopolymer threads)  Ga/8" = 16 Nm  T = Te CONN  A = 0 B = G B = G C = G C = G C = G C = O D = 0  TYPE  S = S F = C C = O D = 0  TYPE  S = S F = C T = Te CONN  A = O B = G C = O D = O TYPE S = S F = C C = O D = O D = O TYPE S = S F = C C = O D = O TYPE S = S F = C C = O D = O TYPE S = S F = C C = O D = O TYPE S = S F = C C = O D = O TYPE S = S F = C C = O D = O TYPE S = S F = C C = O D = O TYPE S = S F = C C = O D = O TYPE S = S F = C C = O D = O TYPE S = S F = C C = O D = O TYPE S = S F = C C = O D = O TYPE S = S F = C C = O D = O TYPE S = S F = C C = O D = O TYPE S = S F = C C = O D = O TYPE S = S F = C T = Te C = O D = O TYPE S = S F = C T = Te C = O D = O TYPE S = S F = C T = Te C = O D = O TYPE S = S F = C T = Te C = O D = O TYPE S = S F = C T = Te C = O D = O TYPE S = S F = C T = Te C = O D = O TYPE S = S F = C T = Te C = O D = O TYPE S = S T = Te C = O D = O TYPE S = S T = Te C = O D = O TYPE S = S T = Te C = O D = O TYPE S = S T = Te C = O D = O TYPE S = S T = Te C = O D = O TYPE S = S T = Te T =	N
down once the desired P2 (regulated pressure)  pressure value is achieved.  - Fitted with panel mounting locking ring.  Note  Assembly positions  Max. fitting torque  (with Technopolymer threads)  Max. fitting torque  (with Technopolymer threads)  Gal/4" = 20 Nm  Weight with threaded inserts  gr. 310  A = G  B = G  ADJUL  A = 0  C = C  ADJUL  A = 0  C = C  ADJUL  A = 0  C = C	
pressure value is achieved.  - Fitted with panel mounting locking ring.  Note  Assembly positions  Indifferent  The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.  Max. fitting torque	hnopolymer thread
Fritted with panel mounting locking ring.  Note  Assembly positions  Indifferent  Abdut  The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.  Max. fitting torque  (with Technopolymer threads)  Max. fitting torque  (with Technopolymer threads)  For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.  Max. fitting torque  Max. fitting torque  Gal/4" = 20 Nm	4"(only for "N" version)
Note Assembly positions Indifferent The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.  Max. fitting torque  (with Technopolymer threads)  Max. fitting torque  G1/8" = 4 Nm  G8/8" = 16 Nm  TYPE  S F = C  Indifferent  ABJUL  A = 0  C = G  ADJUL  A = 0  TYPE  S F = C  Indifferent  ABJUL  A = 0  TYPE  S F = C  Indifferent  ABJUL  A = 0  D = 0  D = 0  TYPE  S F = C	
The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.  Max. fitting torque  (with Technopolymer threads)  G1/8" = 4 Nm  (with Technopolymer threads)  G3/8" = 16 Nm  TYPE  S  F = C  in	/8" NPT(only for "N" versio
a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.  (with Technopolymer threads)  G3/8" = 16 Nm  (with Technopolymer threads)  F = 0  TYPE  S  F = C  in	TING RANGE
regulator with a pressure range as close as possible to the regulated pressure is recommended.  Max. fitting torque $ \begin{array}{c} C = 0 \\ D = 0 \end{array} $	
regulated pressure is recommended.	
Max. fitting torque $ G1/4" = 20 \text{ Nm} $	2 bar
Max. fitting torque $G1/4" = 20 \text{ Nm}$	
Max. fitting torque G1/4" = 20 Nm In	ndard *
in Survival in the survival in	ntrolled refiel +
	proved relieving
	relieving
R = Ir	proved relieving
OPTIC	NS
	indard *
K = L	ckable version

Adjustment characteristics



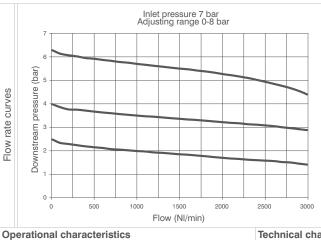
Example: T172BRMC: size 2, Regulator including gauge with Technopolymer threads, G3/8" connections, 0 to 8 bar adjusting range

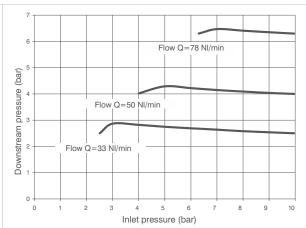


Operational characteristics	Technical characteristics		
- Diaphragm pressure regulator with relieving.	Connections	G 1/4" - G 3/8"	Ordering code
- Low hysteresis rolling diaphragm.	Max. inlet pressure	13 bar	
- Balanced system.	Working temperature	-5°C +50°C	<b>Ø</b> 172 <b>@</b> R <b>D@10</b>
- Available in four pressure ranges up to 12 bar.	Weight with Technopolymer threads	gr. 300	VERSION
- Operating knob can be locked in position by pressing it	Weight with threaded inserts	gr. 310	N = Metal inserts
down once the desired P2 (regulated pressure)	Dunner were	0-2 bar / 0-4 bar	T = Technopolymer thread CONNECTIONS
pressure value is achieved.	Pressure range	0-8 bar / 0-12 bar	A = G1/4"(only for "N" version)
- Fitted with panel mounting locking ring.	Assembly positions	Indifferent	B = G3/8"
- Integrated manometer 0-12 bar as standard	Max. fitting torque		C = G3/8" NPT(only for "N" version)
(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)		G3/8" = 16 Nm	FLOW DIRECTION
		M = from left to right W = from right to left	
Note		ADJUSTING RANGE	
The pressure must be always regulating while increasing. For			A = 0-2 bar
a more precise regulation and higher sensibility, the use of a			<b>6</b> B = 0-4 bar
regulator with a pressure range as close as possible to the			C = 0-8 bar
regulated pressure is recommended.			D = 0-12 bar
regulated pressure is recommended.	Max. fitting torque	G1/4" = 20 Nm	TYPE
	(with threaded inserts)	G3/8" = 25 Nm	= Standard *
	(Will allocated illocate)	30/0 = 20 14111	F = Controlled refiel +
			improved relieving
			L = no relieving R = Improved relieving
			OPTIONS
			Standard *
			K = Lockable version

\* no additional letter required

Filter-Regulator (E)





- Filter diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5 $\mu$ m, 20 $\mu$ m and  $50\mu\text{m}$ ) can be regenerated by washing it or replaced.
- Transparent bowl made off polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard; automatic drain upon request.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure
- Fitted with panel mounting locking ring.

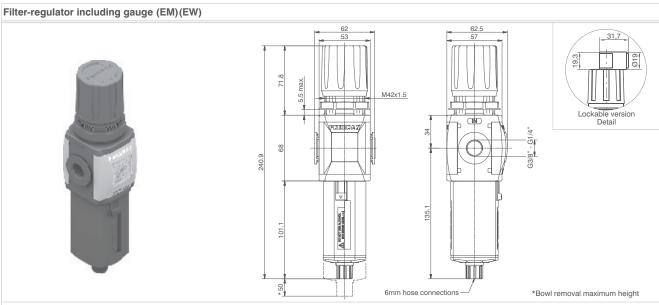
### Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting

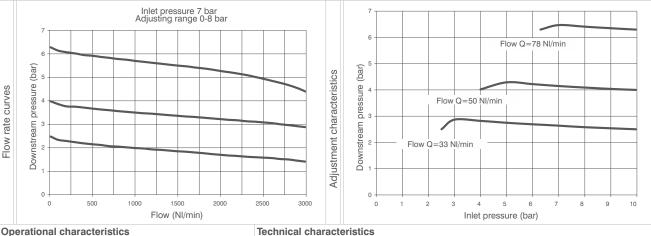
Technical	characteristics
recillical	citatacteristics

Adjustment characteristics

rechnical characteristics			
Connections	G 1/4" - G 3/8"		Ordering code
Max. inlet pressure	13 bar	Ø172 <b>©E</b> S <b>©©</b>	
Minimum working pressure	0,5 bar		
with automatic drain			VERSION
Maximum working pressure	40 5 5 7	V	N = Metal inserts
with automatic drain	10 bar	-	T = Technopolymer thread
Working temperature	-5°C +50°C	0	CONNECTIONS  A = G1/4"(only for "N" version)
Pressure gauge connections	G 1/8"	•	B = G3/8"
Weight with Technopolymer threads	gr. 390		C = G3/8" NPT(only for "N" version)
Weight with threaded inserts	gr. 400		FILTER PORE SIZE
Weight with threaded inserts		8	$A = 5 \mu m$ $B = 20 \mu m$
Pressure range	0-2 bar / 0-4 bar		$C = 50 \mu \text{m}$
	0-8 bar / 0-12 bar		ADJUSTING RANGE
Filter pore size	5 μm - 20 μm - 50 μm		A = 0-2 bar
Bowl capacity	34 cm <sup>3</sup>	e	B = 0-4 bar
Assembly positions	Vertical		C = 0-8 bar
Max. fitting torque	G1/8" = 4 Nm	-	D = 0-12 bar TYPE
			= Standard *
(with Technopolymer threads)	G3/8" = 16 Nm	•	S = Automatic drain
			OPTIONS
			= Standard *
			K = Lockable version
Max. fitting torque	G1/4" = 20 Nm		* no additional
9 1	,		letter required
(with threaded inserts)	G3/8" = 25 Nm		



Example: T172BEMBC: size 2, Filter-Regulator including gauge with Technopolymer threads, G3/8" connections, with  $20~\mu m$  filtering pore size, 0 to 8 bar adjusting range



# Operational characteristics

- Filter diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5 $\mu$ m, 20 $\mu$ m and  $50\mu\text{m}$ ) can be regenerated by washing it or replaced.
- Transparent bowl made of polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard; automatic drain upon request.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Integrated manometer 0-12 bar as standard

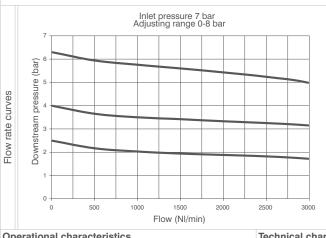
(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

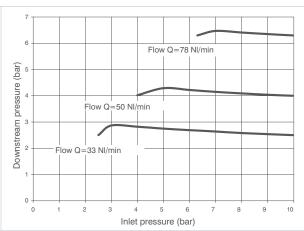
### Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

Connections	G 1/4" - G 3/8"		Ordering code
Max. inlet pressure	13 bar		0.009 0000
Minimum working pressure	0,5 bar		<b>Ø</b> 172 <b>©</b> E <b>D©©©</b>
with automatic drain	1,7		VERSION
Maximum working pressure		V	N = Metal inserts
with automatic drain	10 bar		T = Technopolymer thread
		-	CONNECTIONS
Working temperature	-5°C +50°C	0	A = G1/4"(only for "N" version)
Weight with Technopolymer threads	gr. 400		B = G3/8"
Weight with threaded inserts	gr. 410	-	C = G3/8" NPT(only for "N" version)
	0-2 bar / 0-4 bar	•	FLOW DIRECTION  M = from left to right
Pressure range		•	W = from left to right W = from right to left
	0-8 bar / 0-12 bar	-	FILTER PORE SIZE
Filter pore size	5 μm - 20 μm - 50 μm	_	$A = 5 \mu m$
Bowl capacity	34 cm <sup>3</sup>	8	$B = 20 \mu\text{m}$
Assembly positions	Vertical		C = 50 µm
Max. fitting torque			ADJUSTING RANGE
	G3/8" = 16 Nm		A = 0-2 bar
(with Technopolymer threads)		G	B = 0-4 bar
			C = 0-8 bar
			D = 0-12 bar
			TYPE
		•	= Standard *
			S = Automatic drain
		•	OPTIONS
Max. fitting torque	G1/4" = 20 Nm		= Standard *
(with threaded inserts)	G3/8" = 25 Nm		K = Lockable version
	3.5, 3 20 1111		* no additional letter required

Example: T172BRPCA: size 2, Regulator with Technopolymer threads, G3/8" connections, 0 to 8 bar adjusting range, with pressure switch with M8 connector PNP

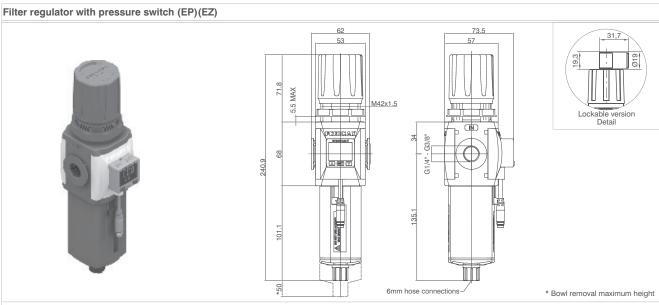




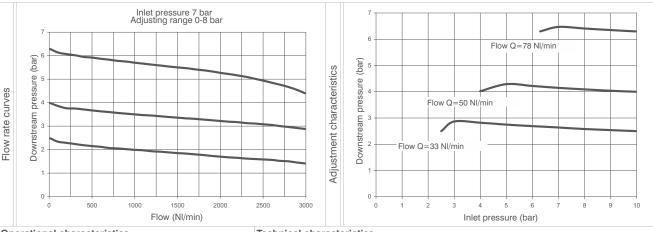
\* no additional letter required

Flow (NI/min)			Inlet pressure (ba	ar)	
Operational characteristics	Technical charac	teristics			
- Diaphragm pressure regulator with relieving.	Connections		G 1/4" - G 3/8"		Ordering code
- Low hysteresis rolling diaphragm.	Max. inlet pressure		13 bar		
- Balanced system.	Working temperature		0°C +50°C		<b>Ø172@R@@@@</b>
- Available in four pressure ranges up to 12 bar.	Weight with Technop	olymer threads	gr. 300		VERSION
Operating knob can be locked in position by pressing it	Weight with threaded	l inserts	gr. 310	V	N = Metal inserts
down once the desired P2 (regulated pressure)	0		0-2 bar / 0-4 bar		T = Technopolymer thread
, ,	Pressure range				CONNECTIONS
pressure value is achieved.			0-8 bar / 0-12 bar	•	A = G1/4"(only for "N" version)
Fitted with panel mounting locking ring.	Assembly positions		Indifferent		B = G3/8"  C = G3/8" NPT(only for "N" version)
Pressure switch as standard	Max. fitting torque				FLOW DIRECTION
Note		vith Technopolymer threads)  G3/8" = 16 Nm		P = from left to right	
The pressure must be always regulating while increasing. For				_	Z = from right to left
					ADJUSTING RANGE
a more precise regulation and higher sensibility, the use of a					A = 0-2 bar
ulator with a pressure range as close as possible to the			e	B = 0-4 bar	
regulated pressure is recommended.					C = 0-8 bar
regulated procedure to recommended.					D = 0-12 bar
					TYPE
					= Standard *
				0	F = Controlled refiel +
	Max. fitting torque		G1/4" = 20 Nm	U	improved relieving
	(with threaded insert	3)	G3/8" = 25 Nm		L = no relieving
					R = Improved relieving
					OPTIONS
				0	= Standard *
					K = Lockable version
					PRESSURE SWITCH OPTION
					A = Cable 150 mm+M8 PNP
			<b>P</b>	B = Cable 150 mm+M8 NPN	
					C = Cable 2 mt. PNP
					D = Cable 2 mt. NPN

Adjustment characteristics



Example: T172BEPBCA: size 2, Filter-regulator with Technopolymer threads, G3/8" connections, 20  $\mu$ m filtering pore size, 0 to 8 bar adjusting range, with pressure switch with M8 connector PNP



# **Operational characteristics**

- Filter diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5µm, 20µm and 50µm) can be regenerated by washing it or replaced.
- Transparent bowl made off polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard; automatic drain upon request
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Pressure switch as standard

# Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

	Technical characteristics			
	Connections	G 1/4" - G 3/8"		Ordering code
	Max. inlet pressure	13 bar	-	ordorning codo
	Minimum working pressure	0,5 bar	<b>V</b> 172 <b>©</b> E <b>0SG1OG</b>	
	with automatic drain			VERSION
	Maximum working pressure	10 bar	V	N = Metal inserts
	with automatic drain	10 bar		T = Technopolymer thread
	Working temperature	0°C +50°C		CONNECTION  A = G1/4"(only for "N" version)
	Weight with Technopolymer threads	gr. 400	•	B = G3/8"
			-	C = G3/8" NPT(only for "N" version)
	Weight with threaded inserts	gr. 410		FLOW DIRECTION
	Pressure range	0-2 bar / 0-4 bar	<b>D</b>	P = from left to right
		0-8 bar / 0-12 bar		Z = from right to left
	Filter pore size	5 μm - 20 μm - 50 μm	8	FILTER PORE SIZE
	'	34 cm <sup>3</sup>		$A = 5 \mu m$
	Bowl capacity			B = 20 μm
	Assembly positions	Vertical		C = 50 μm ADJUSTING RANGE
	Max. fitting torque	G3/8" = 16 Nm	e	A = 0-2 bar
	(with Technopolymer threads)	G3/8" = 16 NIII		
	,		_	C = 0-8 bar
				D = 0-12 bar
			<b>0</b>	TYPE
				= Standard *
				S = Automatic drain
	Max. fitting torque	G1/4" = 20 Nm		OPTIONS
	(with threaded inserts)	G3/8" = 25 Nm		= Standard *
	(with threaded inserts)	G3/8" = 25 NIII		K = Lockable version
				PRESSURE SWITCH OPTION
			e	A = Cable 150 mm+M8 PNP B = Cable 150 mm+M8 NPN
			9	C = Cable 2 mt. PNP
				D = Cable 2 mt. NPN

\* no additional



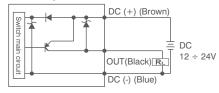


### **CHARACTERISTICS**

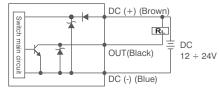
- 3 color digital LCD display, easy readout
- 4 units of measurement for pressure indication
- PNP and NPN output
- N.O. and N.C. output contact
- Not available individually, but only with a Regulator or a Filter-regulator

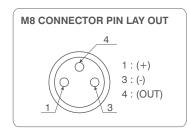
# **OUTPUT CIRCUIT WIRING DIAGRAMS**

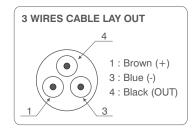
# **PNP** output



# **NPN** output







# Cable ordering code

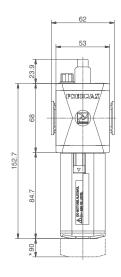
MCH1cable 3 wires I=2,5m with M8 connectorMCH2cable 3 wires I=5m with M8 connectorMCH3cable 3 wires I=10m with M8 connector

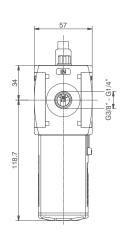
Connector



	TECHNICAL CHARACTERISTICS
Adjusting range	0 ÷ 10 bar / 0 ÷ 1MPa
Max. inlet pressure	15 bar / 1,5 MPa
Fluid	Filtered and dehumidified air
Display unit of measurement	MPa - kgf/cm² - bar - psi
Supply voltage	12 ÷ 24 VDC
Current consumption	≤40mA (without load)
Digital output type	NPN - PNP
Type of contact	Normally Open - Normally Closed
Max. load current	125 mA
Digital output activation mode	single threshold with fixed hysteresis - window with fixed hysteresis - window without hysteresi
Digital output activation time	0.05s - 0.25s - 0.5s - 1s - 2s - 3s (selections for chattering-proof function)
Display characteristics	Double 3 1/2 digit display Digital output status indication Three-pushbuttons touchpad
Indicator accuracy	≤±2% F.S. ± 1 digit
Protection grade	IP 40
Temperature	0 ÷ 50 °C
Cable section	3 x 0,129mm², Ø4 mm, PVC

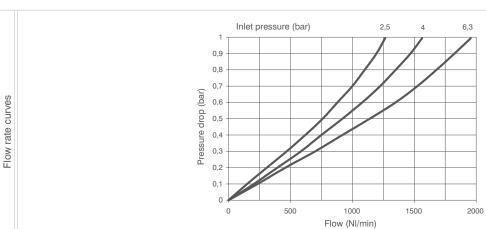






\*Bowl removal maximum height

Example: T172BL: size 2, Lubricator with Technopolymer threads, G3/8" connections



# Operational characteristics

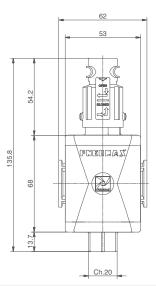
- Oil mist lubrication with variable orifice size in function of the flow rate
- Oil quantity regulation mechanism and oil quantity visualization dome made of polycarbonate.
- Transparent bowl made off polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Oil filling plug
- Oil can be refilled with pressurized circuit.
- Available with electric min-level sensor N.O. or N.C. with connection for connector.
- For electrical connection use connectors type C1-C2-C3 (see sensors chapter in the catalogue).

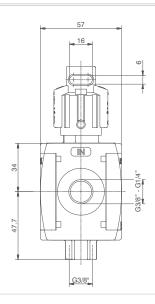
Note
Install as close as possible to the point o fuse
Do not use alcohol, deterging oils or solvents.

Technical characteristics			
Connections	G 1/4" - G 3/8"		Ordering code
Max. inlet pressure	13 bar		
Working temperature	-5°C +50°C		<b>Ø</b> 172 <b>@</b> L <b>⊚</b>
Weight with Technopolymer threads	gr. 210		VERSION
Weight with threaded inserts	gr. 220	V	N = Metal inserts
	1 drop every	_	T = Technopolymer thread
Indicative oil drip rate	300/600 NI		CONNECTIONS
		•	A = G1/4"(only for "N" version) B = G3/8"
Oil type	FD22 - HG32		C = G3/8" NPT(only for "N" version)
Bowl capacity	70 cm <sup>3</sup>		OPTIONS
Assembly positions	Vertical		A = Min. Oil level indicator
Max. fitting torque		0	Normally open
(with Technopolymer threads)	G3/8" = 16 Nm		C = Min. Oil level indicator
, , ,	04/4H 00 No.	-	Normally closed
Max. fitting torque	G1/4" = 20 Nm		
(with threaded inserts)	G3/8" = 25 Nm		
Min. operational flow at 6,3 bar	70 NI/min.		

# Shut-off valve (VL)







Example: T172BVL : size 2, Shut-off valve with Technopolymer threads, G3/8" connections

# Operational characteristics

- Manual operated 3 ways poppet valve.
- Double handle action for valve opening: pushing and rotating (clockwise).
- The valve can be closed and the down stream circuit depressurized by rotating anticlockwise the knob.
- Knob lockable with three padlocks.

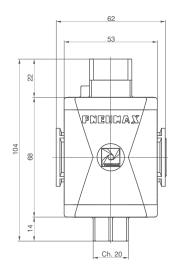
# **Technical characteristics**

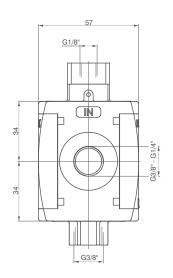
Connections	G 1/4" - G 3/8"	Ordering code
Max. inlet pressure	13 bar	
Discharge connection	G3/8"	<b>Ø</b> 172 <b>@</b> VL
Working temperature	-5°C ÷ +50°C	VERSION
Weight with Technopolymer threads	gr. 180	N = Metal inserts
Weight with threaded inserts	gr. 190	T = Technopolymer thread  CONNECTIONS
Assembly positions	Indifferent	A = G1/4"(only for "N" version)
Handle opening and closing angle	90°	B = G3/8"
Max. fitting torque		C = G3/8" NPT(only for "N" version)
(with Technopolymer threads)	G3/8" = 16 Nm	
Max. fitting torque	G1/4" = 20 Nm	
(with threaded inserts)	G3/8" = 25 Nm	
Nominal flow rate		
at 6 bar with Δp=1	2200 NI/min.	
Exhaust nominal flow rate		
at 6 bar with Δp=1	1500 NI/min.	

3









Example: T172BVP: size 2, Pneumatic shut-off valve with Technopolymer threads, G3/8" connections

Operational characteristics				
	- Pneumatic operated 3 ways poppet valve.			

# - When the pneumatic signal is removed the

# valves exhaust the pneumatic circuit

Technical characteristics	
Connections	G 1/4" - G 3/8"
Discharge connection	G3/8"
Pilot port size	G1/8"
Working temperature	-5°C +50°C
Weight with technopolymer threads	gr. 173
Weight with threaded inserts	gr. 181
Assembly positions	Indifferent
Min. pressure working	2,5 bar
Max. pressure working	10 bar
Max. fitting torque	G3/8" = 16 Nm
(with Technopolymer threads)	G0/0 - 10 WIII
Max. fitting torque	G1/4" = 20 Nm
(with threaded inserts)	G3/8" = 25 Nm
Nominal flow rate	2200 NI/min.
at 6 bar with Δp=1	ZZOO MI/IIIII.

1500 NI/min.

Ordering code **Ø**172**@**VP

	VERSION
V	N = Metal inserts
	T = Technopolymer thread
	CONNECTIONS
<b>(</b>	A = G1/4"(only for "N" version)
G	B = G3/8"

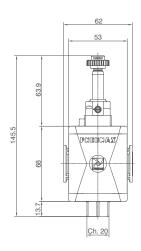
C = G3/8" NPT(only for "N" version)

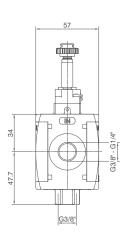
Exhaust nominal flow rate

at 6 bar with ∆p=1

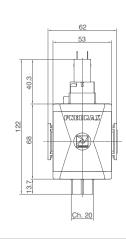
# Electric shut-off valve (VE)

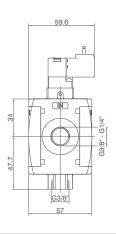










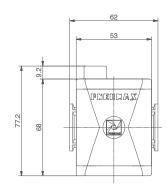


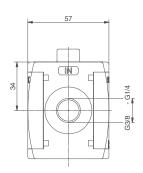
perational characteristics	Technical characteristics			
Solenoid operated 3 ways poppet valve.	Supply and operating connections	G 1/4" - G 3/8"		Ordering code
The model fitted with 15 mm pilots uses pilots series	Discharge connections	G 3/8"		
N33_0A and N33_0E (1 Watt)	Working temperature	-5°C +50°C		<b>Ø</b> 172 <b>@</b> VE <b>Ø</b>
	Weight with Technopolymer threads	200 g		VERSION
	Weight with threaded inserts	210 g	V	
	Assembly positions	Indifferent		T = Technopolymer threa
	Min. Pressure working	2,5 bar		CONNECTIONS  A = G1/4"(only for "N" version)
	Max. Pressure working	10 bar	<b>O</b>	B = G3/8"
	Max. Fressure working  Max. fitting torque	10 Dai		C = G3/8" NPT (only for "N" ve
		G3/8"= 16 Nm		15 mm COIL VOLTAGE
	(with Technopolymer threads)		_	A4 = 12 V DC
	Max. fitting torque	G1/4" = 20 Nm		A5 = 24 V DC A6 = 24 V AC (50-60 Hz)
	(with threaded inserts)	G3/8" = 25 Nm		A7 = 110 V AC (50-60 Hz)
	Nominal flow rate	0000 NII/		A8 = 220 V AC (50-60 H
	at 6 bar with Δp=1	2200 NI/min.		A9 = 24 V DC (1 Watt)
	·			22 mm COIL VOLTAGE
				B2 = Without coil M2 mechanic
				B4 = 12 V DC
			A	B5 = 24 V DC
				B6 = 24 V AC (50-60 Hz
	Exhaust nominal flow rate			B7 = 110 V AC (50-60 H
		1500 NI/min.		B8 = 220 V AC (50-60 H
	at 6 bar with Δp=1			B9 = 24 V DC (2 Watt)
				30 mm COIL VOLTAGE
				C5 = 24 V DC
				C6 = 24 V AC (50-60 Hz
				C7 = 110 V AC (50-60 H
				C8 = 230 V AC (50-60 F) C9 = 24 V DC (2 Watt)



### Progressive start-up valve (AP)







Example: T172BAP: size 2, Progressive start-up valve with Technopolymer threads, G3/8" connections

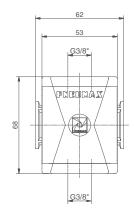
### Operational characteristics **Technical characteristics** Down stream circuit filling time regulated via a built G 1/4" - G 3/8" Connections Ordering code in flow regulator. Max. inlet pressure 13 bar **Ø**172**@**AP -5°C +50°C Full pressure is allowed once the down stream circuit Working temperature pressure reaches 50% of the inlet pressure. Weight with Technopolymer threads gr. 140 VERSION N = Metal inserts Weight with threaded inserts gr. 150 T = Technopolymer threadMax. fitting torque CONNECTIONS G3/8" = 16 Nm (with Technopolymer threads) A = G1/4"(only for "N" version) B = G3/8"G1/4" = 20 NmMax. fitting torque C = G3/8" NPT(only for "N" version) G3/8" = 25 Nm(with threaded inserts) Assembly positions Indifferent Min. pressure working 2,5 bar Nominal flow rate 2200 NI/min.

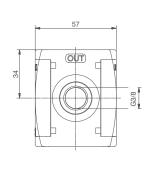
at 6 bar with Δp=1
Fully open built in flow

regulator flow rate

# Air intake (PA)







200 NI/min.

Example: T172BPA: size 2, Air intake with Technopolymer threads, G3/8" connections

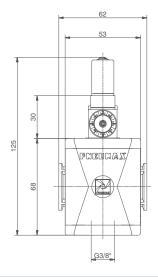
Operational characteristics	Technical characteristics			
Available with two G3/8" threaded connections.	Connections	G 3/8"	Ordering code	
Attenction For this product are available only Technopolymer connections	Max. inlet pressure	13 bar		
	Working temperature	-5°C +50°C	T172BPA	
	Weight	gr. 95,5		
	Assembly positions	Indifferent		
	Max. fitting torque	G3/8" = 16 Nm		
	(with Technopolymer threads)	G0/0 = 10 14111		

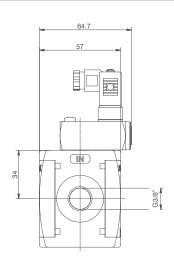
Ordering code

T172BPP

# Pressure switch (PP)







Example: T172BPP: Size 2, Pressure switch with Technopolymer threads, G3/8" connections

# **Operational characteristics**

# Built in adjustable pressure switch (2 to 10 bar) with electrical connection.

G 3/8" threaded connection on the bottom face.

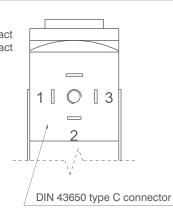
The electrical connection is made by mean of a 15 mm connector DIN 43650 type C. The microswitch contact could be normally closed or open (change overswitch).

### Attenction

For this product are available only Technopolymer connections

Technical characteristics	
Connections	G 3/8"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight	gr. 179
Microswitch capacity	1A
Grade of protection	IP 65
(with connector assembled)	00
Adjusting range	2 -10 bar
Assembly positions	Indifferent
Max. fitting torque	G3/8" = 16 Nm
(with Technopolymer threads)	G3/6 = 16 MIII
Microswitch maximum tension	250 VAC

1 = neutral2 = N.C. contact 3 = N.O. contact



Connection

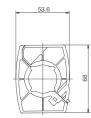


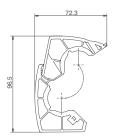
Ordering code

T172X









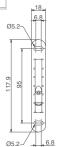
Weight 21 gr.
Example: T172X: Size 2 coupling flange
- Enables the quick connection of two functions.

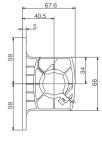
# Flange Y

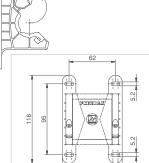
Ordering code

T172Y









6.8

Weight 33 gr.

Example: T172Y: Size 2 coupling flange with mounting holes

- Used to couple together two elements and
to panel mount them.

- Used to panel mount one single element.

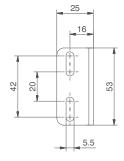
# Single unit panel mounting dimensions

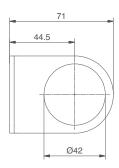
# Fixing bracket

Ordering code

T17250







Weight 71 gr.
- Allows for regulators and filter regulators to be panel mounted.

# Pressure gauge

# Ordering code

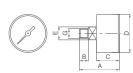
# 17070**0**.**⑤**

	VERSION
V	A = Dial Ø40
	B = Dial Ø50
	SCALE
8	A = Scale 0-4 bar
0	B = Scale 0-6 bar

C = Scale 0-12 bar



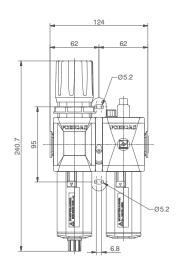


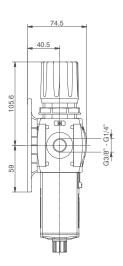


			DIMEN	NSION	S		
CODE	Α	В	С	D	Е	G	Weight gr.
17070A	44	10	26	41	14	1/8"	60
17070B	45	10	27	40	14	1/8"	80

# Service unit assembled (EM+L) (E+L) (EW+L)

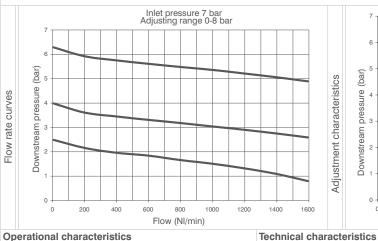


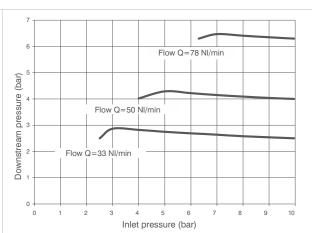




Example: GT172BHG: size 2, combined group comprising Filter-regulator and Lubricator, Technopolymer threads, G3/8" connections, 0 to 8 bar adjusting range and 20 µm filter pore size

Adjustment characteristics





70 NI/min.

Operational chara	cteristics
-------------------	------------

Combined group comprising Filter-regulator with built in manometer and Lubricator assembled with a (Y) type coupling kit for panel mounting.

Integrated manometer 0-12 bar as standard

(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Connections	G 1/4" - G 3/8"	
Max. inlet pressure	13 bar	
Working temperature	-5°C +50°C	
Weight with Technopolymer threads	gr. 643	
Weight with threaded inserts	gr. 663	V
Pressure range	0-2 bar / 0-4 bar	
1 resoure range	0-8 bar / 0-12 bar	•
Filter pore size	5 μm - 20 μm - 50 μm	0
Bowl capacity	34 cm <sup>3</sup>	-
Indicative oil drip rate	1 drop every	0
indicative oil drip rate	300/600 NI	
Oil type	FD22 - HG32	
Bowl capacity	70 cm <sup>3</sup>	
Assembly positions	Vertical	6
Max. fitting torque	CO/01 10 N==	
(with Technopolymer threads)	G3/8" = 16 Nm	
Max. fitting torque	G1/4" = 20 Nm	
(with threaded inserts)	G3/8" = 25 Nm	
		0

	VERSION
V	N = Metal inserts
	T = Technopolymer thread
	CONNECTIONS
0	A = G1/4"(only for "N" version)
•	B = G3/8"
	C = G3/8" NPT(only for "N" version)
	TYPE
0	H =Built in gauge
	J = G1/8" gauge connection
	FILTER PORE SIZE
	ADJUSTING RANGE
	$C = 5 \mu m / 0-8 bar$
8	$D = 5 \mu m / 0-12 bar$
0	$G = 20 \mu m / 0-8 bar$
	$H = 20 \mu m / 0-12 bar$
	$N = 50 \mu m / 0-8 bar$
	$P = 50 \mu m / 0-12 bar$
	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
0	S = Automatic drain
	SA = Automatic drain +
	Min.oil level indicator NO
	SC = Automatic drain +
	Min.oil level indicator NC
	FLOW DIRECTION

= Standard (from left to right) W = from right to left

Ordering code

GØ172@@@@

3.142

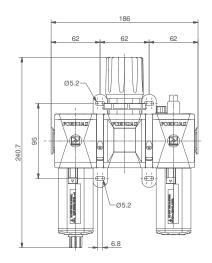
\* no additional letter required

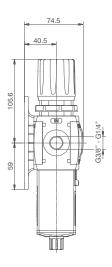
Min. operational flow at 6,3 bar



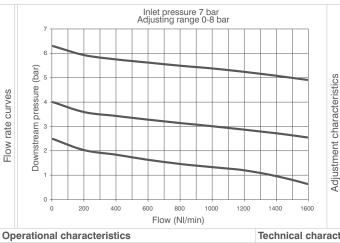
# Service unit assembled (F+RM+L) (F+R+L) (F+RW+L)

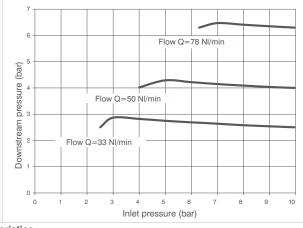






Example: GT172BKG: size 2 combined group comprising Filter, Regulator and Lubricator Technopolymer threads, G3/8" connections, 0 to 8 bar adjusting range and 20 µm filter pore size





70 NI/min.

Combined group comprising Filter, Regulator with built in manometer and Lubricator assembled with two (Y) type coupling kits for panel mounting.

Integrated manometer 0-12 bar as standard

(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

# Note

\* no additional letter required

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics		
Connections	G 1/4" - G 3/8"	
Max. inlet pressure	13 bar	
Working temperature	-5°C +50°C	
Weight with Technopolymer threads	gr. 796	
Weight with threaded inserts	gr. 826	V
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar	
Filter pore size	5 μm - 20 μm - 50 μm	•
Bowl capacity	34 cm <sup>3</sup>	_
Indicative oil drip rate	1 drop every 300/600 NI	0
Oil type	FD22 - HG32	
Bowl capacity	70 cm <sup>3</sup>	
Assembly positions	Vertical	8
Max. fitting torque (with Technopolymer threads)	G3/8" = 16 Nm	
Max. fitting torque	G1/4" = 20 Nm	
(with threaded inserts)	G3/8" = 25 Nm	
		•

G <b>Ø</b> 172 <b>00</b> 900
VERSION
N = Metal inserts
T = Technopolymer thread

Ordering code

 $T = G1/8" \ gauge \ connection$ FILTER PORE SIZE
ADJUSTING RANGE  $C = 5 \ \mu m / 0.48 \ bar$   $D = 5 \ \mu m / 0.12 \ bar$   $G = 20 \ \mu m / 0.8 \ bar$   $H = 20 \ \mu m / 0.12 \ bar$   $N = 50 \ \mu m / 0.8 \ bar$ 

N = 50 μm / 0-8 bar
P = 50 μm / 0-12 bar

OPTIONS
= Standard \*
A = Min.oil level indicator NO
C = Min.oil level indicator NC

SA = Automatic drain
SA = Automatic drain +
Min.oil level indicator NO
SC = Automatic drain +
Min.oil level indicator NC

FLOW DIRECTION

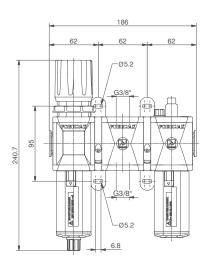
= Standard
(from left to right)

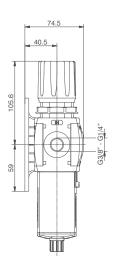
(from left to right)
W = from right to left

Min. operational flow at 6,3 bar

# Service unit assembled (EM+PA+L) (E+PA+L) (EW+PA+L)

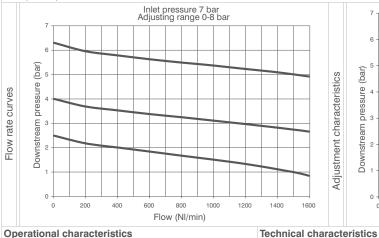


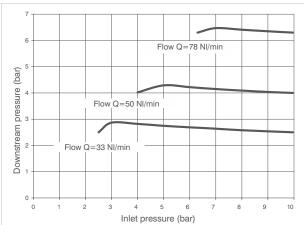




Example: GT172BNG: size 2 combined group comprising Filter-regulator, Air intake and Lubricator Technopolymer threads, G3/8" connections, 0 to 8 bar adjusting range and 20  $\mu$ m filter pore size

Adjustment characteristics





# **Operational characteristics**

Combined group comprising Filter-regulator with built in manometer, Air intake and Lubricator assembled with two (Y) type coupling kits for panel mounting. Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

# Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Connections	G 1/4" - G 3/8"		
Max. inlet pressure	13 bar		
Working temperature	-5°C +50°C		
Weight with Technopolymer threads	gr. 771,5		
Weight with threaded inserts	gr. 791,5	V	
Pressure range	0-2 bar / 0-4 bar	-	
Tressure range	0-8 bar / 0-12 bar	6	
Filter pore size	5 μm - 20 μm - 50 μm		
Bowl capacity	34 cm³	-	
Indicative oil drip rate	1 drop every	•	
indicative oil drip rate	300/600 NI	L	
Oil type	FD22 - HG32		
Bowl capacity	70 cm <sup>3</sup>		
Assembly positions	Vertical	6	
Max. fitting torque	00/01 40 N		
(with Technopolymer threads)	G3/8" = 16 Nm		
Max. fitting torque	G1/4" = 20 Nm		
(with threaded inserts)	G3/8" = 25 Nm		
		_	
		•	
Min. operational flow at 6,3 bar	70 NI/min.		

		VERSION
	V	N = Metal inserts
		T = Technopolymer thread
	•	CONNECTIONS
		A = G1/4"(only for "N" version)
	9	B = G3/8"
-		C = G3/8" NPT(only for "N" version)
		TYPE
	0	N = Built in gauge
		P = G1/8" gauge connection
		FILTER PORE SIZE
		ADJUSTING RANGE
		$C = 5 \mu m / 0-8 bar$
	8	$D = 5 \mu m / 0-12 bar$
	0	$G = 20 \mu m / 0-8 bar$
		$H = 20 \mu m / 0-12 bar$
		$N = 50  \mu m / 0 - 8  bar$
		$P = 50  \mu m / 0 - 12  bar$
		OPTIONS
		= Standard *
		A = Min.oil level indicator NO
		C = Min.oil level indicator NC
	<b>()</b>	S = Automatic drain
		SA = Automatic drain +
		Min.oil level indicator NC
		SC = Automatic drain +

Min.oil level indicator NC

FLOW DIRECTION = Standard (from left to right)
W = from right to left

Ordering code

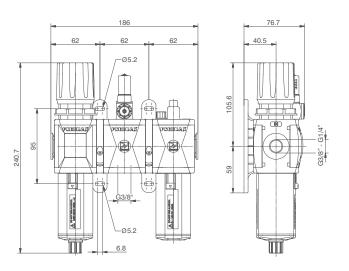
GØ172@@@@

\* no additional letter required

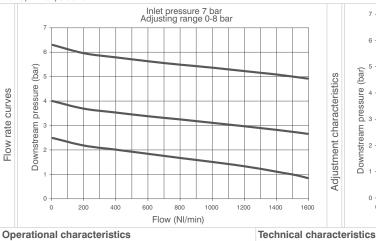


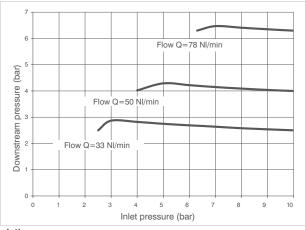
# Service unit assembled (EM+PP+L) (E+PP+L) (EW+PP+L)





Example: GT172BRG: size 2 combined group comprising Filter-Regulator, Pressure switch and Lubricator Technopolymer threads, G3/8" connections 0 to 8 bar adjusting range and 20  $\mu$ m filter pore size





\* no additional letter required

Combined group comprising Filter-regulator with built in manometer, Pressure switch and Lubricator assembled with two (Y) type coupling kits for panel mountings. Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

# Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

lechnical characteristics		
Connections	G 1/4" - G 3/8"	
Max. inlet pressure	13 bar	H
Working temperature	-5°C +50°C	
Weight with Technopolymer threads	gr. 855	
Weight with threaded inserts	gr. 875	V
Pressure range	0-2 bar / 0-4 bar	-
Tressure range	0-8 bar / 0-12 bar	•
Filter pore size	5 μm - 20 μm - 50 μm	•
Bowl capacity	34 cm <sup>3</sup>	-
Indicative oil drip rate	1 drop every	•
indicative oil drip rate	300/600 NI	_
Oil type	FD22 - HG32	
Bowl capacity	70 cm <sup>3</sup>	
Assembly positions	Vertical	8
Max. fitting torque	G3/8" = 16 Nm	-
(with Technopolymer threads)	G3/8" = 16 NIII	
Max. fitting torque	G1/4" = 20 Nm	_
(with threaded inserts)	G3/8" = 25 Nm	
Min. operational flow at 6,3 bar	70 NI/min.	•

# Ordering code GØ172@@@@

	VERSION
V	N = Metal inserts
	T = Technopolymer thread
	CONNECTIONS
_	A = G1/4"(only for "N" version)

	G	B = G3/8"
ı		$C = G3/8" \ NPT (only for "N" version)$
Г		TYPE
	•	R = Built in gauge

0	R = Built in gauge			
	C = G1/8" gauge connection			
	FILTER PORE SIZE			
	ADJUSTING RANGE			
	$C = 5 \mu m / 0-8 bar$			
0	$D = 5 \mu m / 0-12 bar$			

8	$D = 5 \mu m / 0 - 12 bar$					
0	$G = 20 \mu m / 0-8 bar$					
	$H = 20  \mu m / 0 - 12  bar$					
	$N = 50  \mu m / 0-8  bar$					
	$P = 50 \mu m / 0 - 12 bar$					
	OPTIONS					
	= Standard *					
	A = Min.oil level indicator NO					
	C - Min oil loyal indicator NO					

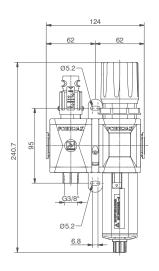
	/ William IO FOI II I GIOGLO I TEL
	C = Min.oil level indicator No
0	S = Automatic drain
	SA = Automatic drain +
	Min.oil level indicator N
	SC = Automatic drain I

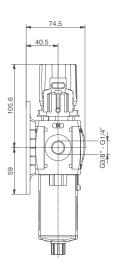
Min.oil level indicator NC FLOW DIRECTION

= Standard (from left to right)
W = from right to left

# Service unit assembled (VL+EM) (VL+E) (VL+EW)

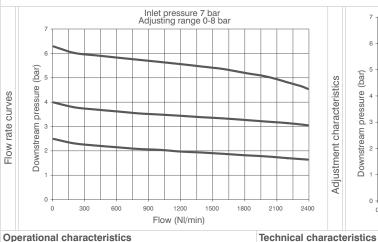


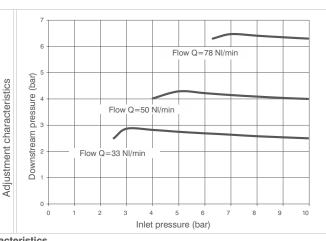




Example: GT172BVGG: size 2 combined group comprising Shut-off valve, Filter-regulator Technopolymer threads, G3/8" connections 0 to 8 bar adjusting range and 20 µm filter pore size

Connections





G 1/4" - G 3/8"

# Operational characteristics

Combined group comprising manual shut-off valve, Filter regulator with built in manometer, assembled with one (Y) type coupling kit for panel mountings. Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

# Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Max. Inlet pressure	13 bar	
Working temperature	-5°C +50°C	
Weight with Technopolymer threads	gr. 613	
Weight with threaded inserts	gr. 633	•
Pressure range	0-2 bar / 0-4 bar	H
. 1000a10 Talligo	0-8 bar / 0-12 bar	l,
Filter pore size	5 μm - 20 μm - 50 μm	`
Bowl capacity	34 cm <sup>3</sup>	H
Indicative oil drip rate	1 drop every	(
indicative on drip rate	300/600 NI	L
Oil type	FD22 - HG32	
Bowl capacity	70 cm <sup>3</sup>	
Assembly positions	Vertical	
May fitting torque		

3 11 11 11 11			
Weight with Technopolymer threads	gr. 613		VERSION
Weight with threaded inserts	gr. 633	V	N = Metal inserts
Pressure range	0-2 bar / 0-4 bar		T = Technopolymer thread CONNECTIONS
	0-8 bar / 0-12 bar	0	A = G1/4"(only for "N" version)
Filter pore size	5 μm - 20 μm - 50 μm		B = G3/8"
Bowl capacity	34 cm <sup>3</sup>		C = G3/8" NPT(only for "N" version)  TYPE
Indicative oil drip rate	1 drop every	0	
indicative oil drip rate	300/600 NI		VU = G1/8" gauge connection
Oil type	FD22 - HG32		FILTER PORE SIZE ADJUSTING RANGE
Bowl capacity	70 cm <sup>3</sup>		$C = 5 \mu \text{m} / 0.8 \text{ bar}$
Assembly positions	Vertical	8	D = 5 μm / 0-12 bar
Max. fitting torque			$G = 20 \mu\text{m} / 0.8 \text{bar}$
(with Technopolymer threads)	G3/8"= 16 Nm		$H = 20 \mu\text{m} / 0-12 \text{bar}$ $N = 50 \mu\text{m} / 0-8 \text{bar}$
Max. fitting torque	G1/4" = 20 Nm		P = 50 μm / 0-12 bar
(with threaded inserts)	G3/8" = 25 Nm		OPTIONS
(with threaded inserts)	30/0 - 23 14111	•	= Standard *
			S = Automatic drain
Min an austion of flower to O have	AU/ :		FLOW DIRECTION
Min. operational flow at 6,3 bar	70 NI/min.	0	= Standard
		9	(from left to right)

W = from right to left \* no additional letter required

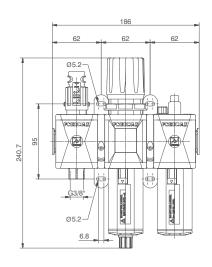
Ordering code

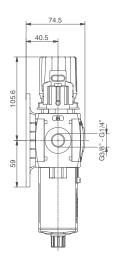
GØ172@@@@



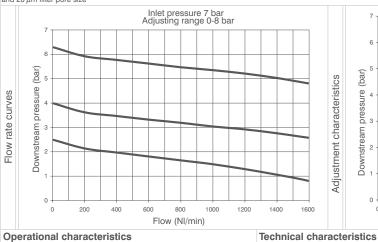
# Service unit assembled (VL+EM+L) (VL+E+L) (VL+EW+L)

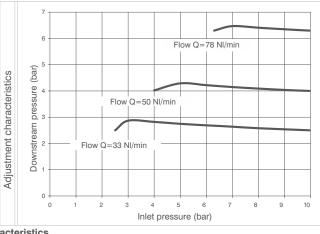






Example: GT172BVHG: size 2 combined group comprising Shut-off valve, Filter-regulator and Lubricator Technopolymer threads, G3/8" connections 0 to 8 bar adjusting range and 20  $\mu$ m filter pore size





G3/8" = 16 Nm

G1/4" = 20 Nm

G3/8" = 25 Nm

70 NI/min.

Combined group comprising manual shut-off valve, Filter regulator with built in manometer and Lubricator assembled with two(Y) type coupling kits for panel mountings. Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

# Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Connections	G 1/4" - G 3/8"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 856
Weight with threaded inserts	gr. 886
Pressure range	0-2 bar / 0-4 bar

Weight with Technopolymer threads	gr. 856
Weight with threaded inserts	gr. 886
Pressure range	0-2 bar / 0-4 bar
Tressure range	0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	34 cm <sup>3</sup>
Indicative oil drip rate	1 drop every
indicative on drip rate	300/600 NI
Oil type	FD22 - HG32
Bowl capacity	70 cm <sup>3</sup>
Assembly positions	Vertical
Max. fitting torque	CO/01 10 Nm

(with threaded inserts)

(with Technopolymer threads)

Max. fitting torque

Min.	operational flow at 6,3 bar	

# Ordering code GØ172@@@@

# VERSION N = Metal inserts T = Technopolymer thread

	OCIVINECTIONS
	A = G1/4"(only for "N" version)
G	B = G3/8"
	$C = G3/8" \ NPT (only for "N" version)$
	TVPE

	TYPE
0	VH = Built in gauge
	VJ = G1/8" gauge connection
	FILTER PORE SIZE
	ADJUSTING RANGE
	$C = 5 \mu m / 0-8 bar$
0	$D = 5 \mu m / 0-12 bar$

8	$D = 5 \mu m / 0-12 bar$
0	$G = 20 \mu m / 0-8 bar$
	$H = 20  \mu m / 0 - 12  bar$
	$N = 50  \mu m / 0 - 8  bar$
	$P = 50  \mu m / 0 - 12  bar$
	OPTIONS
	= Standard *
	A = Min.oil level indicator NC
	C = Min.oil level indicator NC
_	

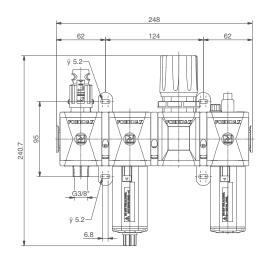
	71 - WIII I. OII TO VOI II I GIOGLOT I
	C = Min.oil level indicator N
0	S = Automatic drain
	SA = Automatic drain +
	Min.oil level indicator N
	SC - Automatic drain ±

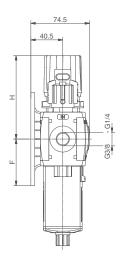
	Will I. Oil level il fulcator INO
	SC = Automatic drain +
	Min.oil level indicator NC
	FLOW DIRECTION
_	- Standard

(from left to right)
W = from right to left

# Service unit assembled (VL+F+RM+L) (VL+F+R+L) (VL+F+RW+L)

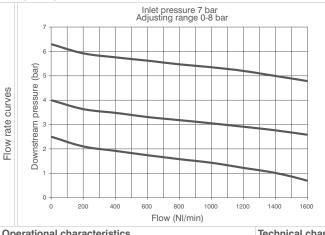


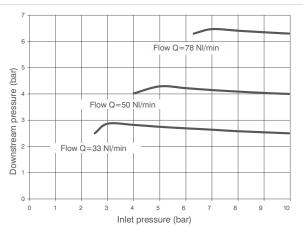




Example: GT172BVKG: size 2 combined group comprising Shut-off valve, Filter, Regulator and Lubricator Technopolymer threads, G3/8" connections 0 to 8 bar adjusting range and 20 µm filter pore size

Adjustment characteristics





Operational characteristics
Combined group comprising manual shut - off valve, Filter,
Regulator with built in manometer and Lubricator , assembled
with two (Y) type coupling kits for panel mounting and one (X)
type coupling kit.
Integrated manometer 0-12 bar as standard
(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)
Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics		
Connections	G 1/4" - G 3/8"	
Max. inlet pressure	13 bar	
Working temperature	-5°C +50°C	
Weight with Technopolymer threads	gr. 997	
Weight with threaded inserts	gr. 1037	V
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar	6
Filter pore size	5 μm - 20 μm - 50 μm	
Bowl capacity	34 cm <sup>3</sup>	$\vdash$
Indicative oil drip rate	1 drop every 300/600 NI	•
Oil type	FD22 - HG32	
Bowl capacity	70 cm <sup>3</sup>	
Assembly positions	Vertical	6
Max. fitting torque (with Technopolymer threads)	G3/8" = 16 Nm	
Max. fitting torque	G1/4" = 20 Nm	_
(with threaded inserts)	G3/8" = 25 Nm	
Min. operational flow at 6,3 bar	70 NI/min.	•

		G <b>Ø</b> 172 <b>00</b> 900
		VERSION
	V	N = Metal inserts
		T = Technopolymer thread
		CONNECTIONS
	0	A = G1/4"(only for "N" version)
	G	B = G3/8"
		C = G3/8" NPT(only for "N" version)
		TYPE
	0	VK = Built in gauge
		VT = G1/8" gauge connection
		FILTER PORE SIZE
		ADJUSTING RANGE
		$C = 5 \mu \text{m} / 0-8 \text{bar}$
	8	$D = 5 \mu m / 0-12 bar$
_	0	$G = 20 \mu\text{m} / 0-8 \text{bar}$
		$H = 20 \mu m / 0-12 bar$
		$N = 50  \mu \text{m} / 0.8  \text{bar}$
		$P = 50  \mu m / 0 - 12  bar$
		OPTIONS
		= Standard *
		A = Min.oil level indicator NO
		C = Min.oil level indicator NC
	0	S = Automatic drain
		SA = Automatic drain +
		Min.oil level indicator NO
		SC = Automatic drain +
		Min.oil level indicator NC
		FLOW DIRECTION
	0	= Standard

(from left to right)
W = from right to left

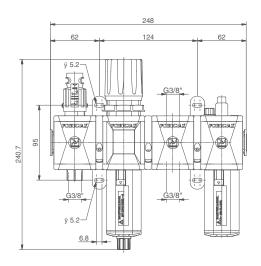
Ordering code

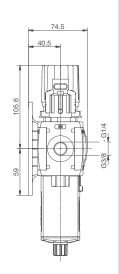
\* no additional letter required



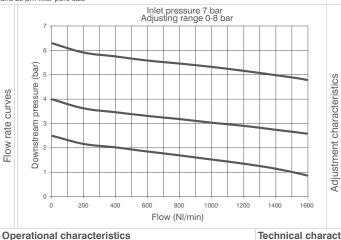
# Service unit assembled (VL+EM+PA+L) (VL+E+PA+L) (VL+EW+PA+L)

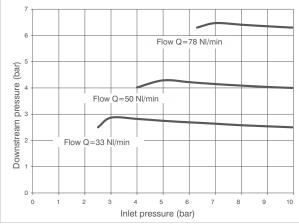






Example: GT172BVNG: size 2 combined group comprising Shut-off valve, Filter-regulator, Air intake and Lubricator Technopolymer threads, G3/8" connections 0 to 8 baradjusting range and 20  $\mu m$  filter pore size





\* no additional letter required

Combined group comprising manual shut-off valve, Filter regulator with built in manometer, Air intake and Lubricator, assembled with two (Y) type coupling kits for panel mounting and one (X) type coupling kit.

Integrated manometer 0-12 bar as standard

(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

# Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

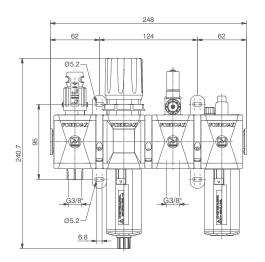
			,
Technical charac	teristics		
Connections		G 1/4" - G 3/8"	
Max. inlet pressure		13 bar	
Working temperature	е	-5°C +50°C	
Weight with Technop	oolymer threads	gr. 972,5	
Weight with threader	d inserts	gr. 1002,5	V
Pressure range		0-2 bar / 0-4 bar 0-8 bar / 0-12 bar	0
Filter pore size		5 μm - 20 μm - 50 μm	G
Bowl capacity		34 cm³	_
Indicative oil drip rat	е	1 drop every 300/600 NI	Ū
Oil type		FD22 - HG32	
Bowl capacity		70 cm <sup>3</sup>	
Assembly positions		Vertical	8
Max. fitting torque (with Technopolyme	r threads)	G3/8" = 16 Nm	
Max. fitting torque		G1/4" = 20 Nm	
(with threaded insert	ts)	G3/8" = 25 Nm	
Min. operational flow	v at 6,3 bar	70 Nl/min.	•

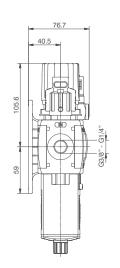
	Ordering code
	G <b>Ø</b> 172 <b>@@</b> \$ <b>@0</b>
	VERSION
V	N = Metal inserts
	T = Technopolymer thread
	CONNECTIONS
0	A = G1/4"(only for "N" version)
9	B = G3/8"
	C = G3/8" NPT(only for "N" version)
	TYPE
0	VN = Built in gauge
	VP = G1/8" gauge connection
	FILTER PORE SIZE
	ADJUSTING RANGE
	$C = 5 \mu \text{m} / 0-8 \text{bar}$
6	$D = 5 \mu m / 0-12 bar$
	$G = 20 \mu m / 0-8 bar$
	$H = 20 \mu m / 0-12 bar$
	$N = 50 \mu m / 0-8 bar$
	$P = 50 \mu m / 0-12 bar$
	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
0	S = Automatic drain
	SA = Automatic drain +
	Min.oil level indicator NO
	SC = Automatic drain +
	Min.oil level indicator NC
	FLOW DIRECTION
	= Standard

(from left to right)
W = from right to left

# Service unit assembled (VL+EM+PP+L) (VL+E+PP+L) (VL+EW+PP+L)

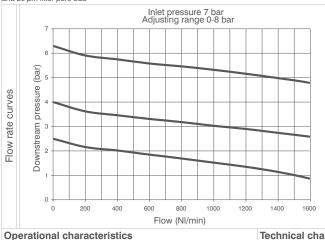


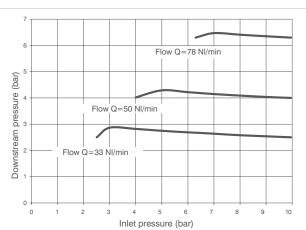




Example: GT172BVRG: size 2 combined group comprising Shut-off valve, Filter-regulator, Pressure switch and Lubricator Technopolymer threads, G3/8" connections adjusting range 0 to 8 bar and 20 µm filter pore size

Adjustment characteristics





Combined group comprising manual shut-off valve, Filter -
regulator with built in manometer, Pressure switch and
Lubricator, assembled with two (Y) type coupling kits for panel
mounting and one (X) type coupling kit.
Integrated manometer 0-12 bar as standard
(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)
Note
The pressure must be always regulating while increasing. For
and the second s
a more precise regulation and higher sensibility, the use of a
a more precise regulation and nigner sensibility, the use of a regulator with a pressure range as close as possible to the
1 0 0 7

Technical characteristics		
Connections	G 1/4" - G 3/8"	Т
Max. inlet pressure	13 bar	
Working temperature	-5°C +50°C	
Weight with Technopolymer threads	gr. 1056	
Weight with threaded inserts	gr. 1086	V
Pressure range	0-2 bar / 0-4 bar	-
i ressure range	0-8 bar / 0-12 bar	0
Filter pore size	5 μm - 20 μm - 50 μm	6
Bowl capacity	34 cm³	-
Indicative oil drip rate	1 drop every	•
indicative oil drip rate	300/600 NI	
Oil type	FD22 - HG32	
Bowl capacity	70 cm <sup>3</sup>	
Assembly positions	Vertical	6
Max. fitting torque	G3/8" = 16 Nm	
(with Technopolymer threads)	G3/8" = 16 Nm	
Max. fitting torque	G1/4" = 20 Nm	L
(with threaded inserts)	G3/8" = 25 Nm	
Min. operational flow at 6,3 bar	70 NI/min.	•

	<b>GØ</b> 172 <b>©Ū</b> S <b>⊙D</b>				
		VERSION			
	V	N = Metal inserts			
		T = Technopolymer thread			
		CONNECTIONS			
	•	A = G1/4"(only for "N" version)			
	9	B = G3/8"			
-		C = G3/8" NPT(only for "N" version)			
_		TYPE			
	0	VR = Built in gauge			
		VC = G1/8" gauge connection			
		FILTER PORE SIZE			
_		ADJUSTING RANGE			
		$C = 5 \mu \text{m} / 0-8 \text{bar}$			
	8	$D = 5 \mu m / 0-12 bar$			
		$G = 20 \mu m / 0-8 bar$			
		$H = 20 \mu m / 0-12 bar$			
		$N = 50 \mu m / 0.8 bar$			
		$P = 50 \mu m / 0-12 bar$			
		OPTIONS			
-		= Standard *			
		A = Min.oil level indicator NO			
	_	C = Min.oil level indicator NC			
	0	S = Automatic drain			
		SA = Automatic drain +			
		Min.oil level indicator NO			
		SC = Automatic drain +			
		Min.oil level indicator NC			

FLOW DIRECTION

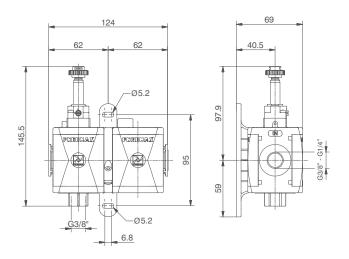
= Standard
(from left to right)

W = from right to left

Ordering code

\* no additional letter required

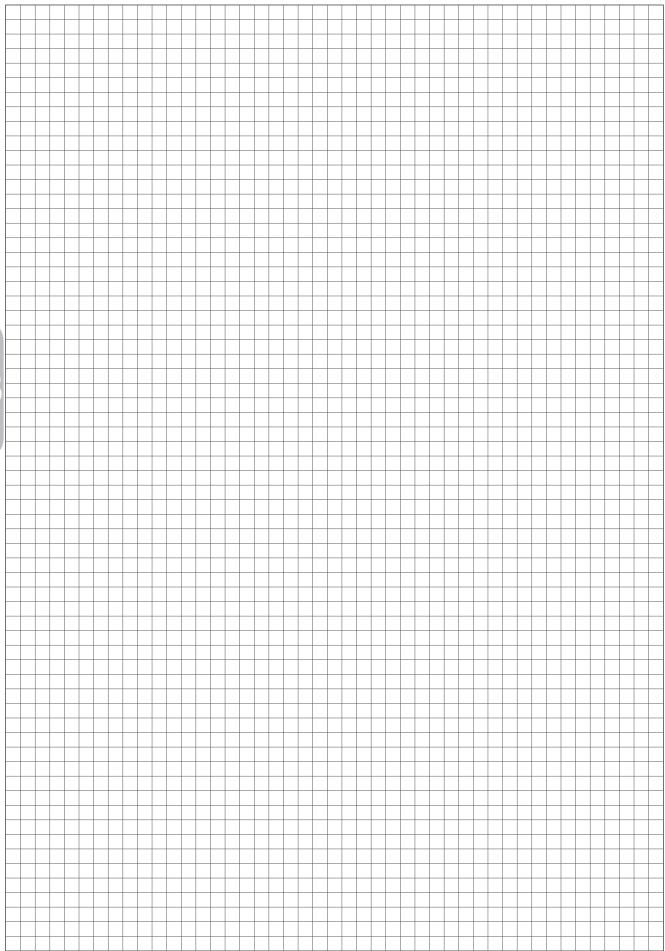




Example: GT172BSB2: size 2 combined group comprising Electric shut-off valve, Progressive start-up valve without coil with M2 pilot Technopolymer threads, G3/8" connections

Operational characteristics	Technical characteristics			
Combined group comprising Electric shut - off valve and	Connections	G 1/4" - G 3/8"		Ordering code
Progressive start-up valve assembled with a (Y) type coupling kit	Max. inlet pressure	10 bar		
or panel mounting.	Min. inlet pressure	2.5 bar		<b>GØ</b> 172 <b>©</b> S <b>Ø</b>
	Working temperature	-5°C +50°C		VERSION
	Weight with Technopolymer threads	gr. 373	V	N = Metal inserts
	Weight with threaded inserts	gr. 393		T = Technopolymer threa
			-	CONNECTIONS
	Assembly positions	Indifferent	•	A = G1/4"(only for "N" version) B = G3/8"
	Max. fitting torque	G3/8" = 16 Nm		B = G3/8" C = G3/8" NPT(only for "N" vers
	(with Technopolymer threads)	G0/0 = 10 Mil		15 mm COIL VOLTAGE
	Max. fitting torque	G1/4" = 20 Nm		A4 = 12 V DC
	(with threaded inserts)	G3/8" = 25 Nm		A5 = 24 V DC
	(With throaded moorte)	G0/0 - 20 Hill		A6 = 24 V AC (50-60 Hz)
				A7 = 110 V AC (50-60 Hz
				A8 = 220 V AC (50-60 Hz
				A9 = 24 V DC (1 Watt)
				22 mm COIL VOLTAGE
				B2 = Without coil
				M2 mechanic
			A	B4 = 12 V DC
				B5 = 24 V DC
	Flow at 6 bar with $\Delta p=1$	1800 NI/min.		B6 = 24 V AC (50-60 Hz)
				B7 = 110 V AC (50-60 Hz
				B8 = 220 V AC (50-60 Hz
				B9 = 24 V DC (2 Watt)
				30 mm COIL VOLTAGE
				C5 = 24 V DC
				C6 = 24 V AC (50-60 Hz)
				C7 = 110 V AC (50-60 Hz
				C8 = 230 V AC (50-60 Hz
				C9 = 24 V DC (2 Watt)







# Construction and working characteristics

The new FRL units AIRPLUS series represents the evolution of the well known and consolidated 1700 series.

The main features are increased performances, reliability, easy and fast assembly and the introduction of the latest technical features.

With the exception of the air intake module and the pressure switch module all elements are available in two configurations: with technopolimer connections (IN and OUT), (T series), or with metal threaded inserts, (N series). Bowls made of transparent polycarbonate (PC) are fitted with a bowl protection guard which is assembled on the body via a quick coupling mechanism provided with a safety button. The filter, available with three filtration grades (5µm, 20µm and 50µm) is fitted as standard with a drain mechanism which can be operated manually or semiautomatically. On request is available the auto-drain mechanism. The regulator is based on the rolling diaphragm technology with low hysteresis and the system is balanced. The unit can be fitted with integrated flush mounting pressure gauge (0 to 12 bar range). 4 pressure ranges are available going from 0 to 12 bar and the regulating knob can be blocked in position simply by pressing it down. A dedicated version is available for battery mounting, up to a maximum of 6 units. The lubricator is based on the Venturi principle and the oil quantity is regulated via the adjusting screw positioned don the transparent polycarbonate (PC) regulating dome which also ensure clear visibility of the oil flow and regulation. The oil suction pipe is fitted as standard with a sintered filter which ensures that any contaminant that should be present in the oil will reach the down stream circuit. Shoot off valve is available in two versions, one manually operated and one solenoid operated. In both cases the unit is fitted with a threaded connection for depressurising the downstream circuit. On the manually operated version, in the lock position, it is possible to fit up to three locks in order to prevent the accidental pressurization of the pneumatic circuit avoiding accidents or damages. The solenoid operated version is available with a 15mm or with a 22mm solenoid valve. The soft start valve ensure a progressive pressurization of the down stream circuit avoiding sudden pressure surges which could be dangerous for the devices fitted on the down stream circuit. The filling time can be easily adjusted via a built in flow regulator. The full flow rate is allowed only once the down stream pressure has reached 50% of the value of the inlet pressure. The pressure switch module which can be set between 2 and 10 bar and the air intake module complete the range.

The elements are joint together via dedicated quick coupling technopolimer flanges which allows for the units to be panel mounted moreover ensure the possibility to replace any component without disassembling the FRL group from its position.

90° mounting brackets and standard gauges are also available.

# Instruction for installation and operation

The FRL unit must be installed as close as possible to the application. The air flow direction must follow the directions indicated on the single units in correspondence of the threaded connections. (IN and OUT)

Units provided with bowl must be mounted vertically with the bawl facing down. Single units or groups can be panel mounted via the Y type flanges, regulators and filter-regulators can be mounted via the 90° zinc plated steel bracket. In order to mount the 90° bracket it is necessary to remove the regulating knob and then the locking ring before positioning the bracket. All units must be operated according to the specified pressure and temperature ranges; fittings must be mounted without exciding the maximum torque allowed. Ensure that the units cover plates are in position before pressure is applied. The cover plates are needed to lock in position the top part of the unit.

The condense level in filer and filter-regulators bowls must never exceed the maximum level indicated on the bowls. With manual or semi automatic drain the condense can be discharged via a 6/4mm tube directly connected to the drain tap. On the pressure regulator the pressure value must always set wile pressure is rising and ideally the unit pressure range should be chosen based on the pressure value to be regulated. Lubricators must be filled with class FD22 and HG32 oils. Ensure, both on the inlet and on the outlet, that the flow rate is above the minimum flow rate required to operate the unit. Below this value the units does not operate. The oil quantity can be regulated via the regulating screw on the transparent polycarbonate dome through which it is also clearly visible the oil flow. A drop every 300-600 litres should be allowed.

The oil can be re-filled while the pneumatic circuit is pressurized thanks to the exhaust valve which is built in the refill plug and allows for the bowl to be depressurized and the oil refill directly form in the bowl or from the plug. The manual shot off valve needs, to be operated, a push and turn action (clockwise) in order to close it and discharge the down stream circuit it is necessary to turn anti clock wise the knob. The soft start valve is used to slowly and progressively pressurize the down stream circuit, the time needed to do so can be set by means of the built in flow regulator. The soft start valve on its own does not allow for the down stream circuit to be discharged, in order to do so it is necessary to combine it with a shot off valve (to be mounted upstream).

### Maintenance



For any maintenance which requires the removal of the top plugs/ supports from the body it is necessary to preventively remove the sides cover plates. If the top plugs\supports are removed with the sides plates still in their position the unit could be permanently damaged.

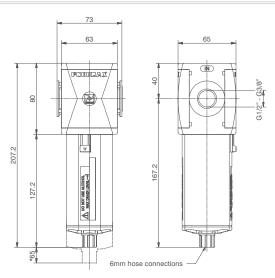
Bowls, plugs and supports are assembled with a bayonet type mechanism. In order to remove them rotate anti clockwise until the mechanical stop is reached and than remove from the body (for the bowls firstly press down the green safety button). Bowls and transparent parts can be cleaned with water and neutral soap. Do not use solvents or alcohol.

Filtering elements (from filters and filter regulators) made of HDPE can be regenerated by washing and blowing them. In order to remove them it is necessary to remove the bowl unscrew the filter element and replace it with a new one or clean it. The oil can be re-filled while the pneumatic circuit is pressurized thanks to the exhaust valve which is built in the refill plug and allows for the bowl to be depressurized. In order to be able to unmount the bowl it is necessary unscrew the refill plug positioned near the oil dome, once this operation has been carried out it is possible to remove the bowl to re fill it or to refill from the refill plug. Refilling directly the bowl is suggested.

Should the pressure regulator not perform properly or should present a constant leackage from the relieving replaced the diaphragm by unloading completely the regulating spring before removing the regulation support. Any other maintenance operation, in consideration of the complexity of the assembly, and the need of a through test according to the Pneumax spa specification, should be carried out by the manufacturer.

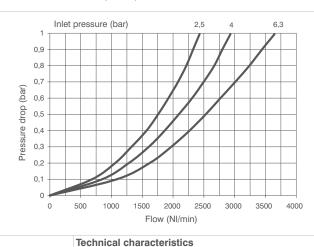
# Fittings maximum recommended torque applicable

THREAD	Technopolymer version (T)	Metal version (N)
G1/8"	4 Nm	15 Nm
G1/4"	9 Nm	20 Nm
G3/8"	16 Nm	25 Nm
G1/2"	22 Nm	30 Nm



\*Bowl removal maximum height

Example: T173BFB: size 3, Filter with Technopolymer threads, G1/2" connections, 20  $\mu$ m filter pore size



### Double filtering action: air flow centrifugation and filter element G 3/8" - G 1/2" Connections Ordering code Filtering element made of HDPE (high density polyethylene) Max. inlet pressure 13 bar **Ø**173**@**F**◎®** available in three different filtration grades (5 $\mu$ m, 20 $\mu$ m and Minimum working pressure 0,5 bar $50\mu\text{m}$ ) can be regenerated by washing it or replaced. with automatic drain VERSION N = Metal inserts Transparent bowl made off polycarbonate with Maximum working pressure 10 bar T = Technopolymer thread bowl protection guard. with automatic drain CONNECTIONS -5°C +50°C Bowl assembly via bayonet type quick coupling Working temperature A = G3/8"(only for "N" version) B = G1/2" Weight with Technopolymer threads gr. 320 mechanism with safety button. C = G1/2" NPT(only for "N" version) Semi-automatic drain mounted as standard; Weight with threaded inserts gr. 340 FILTER PORE SIZE automatic drain upon request. 5 $\mu$ m - 20 $\mu$ m - 50 $\mu$ m Filter pore size $A = 5 \mu m$ 68 cm<sup>3</sup> $B = 20 \,\mu m$ Bowl capacity Note $C = 50 \,\mu m$ In order to ensure adequate flow on the auto drain version it is Assembly positions Vertical OPTIONS recommended to use minimum a 6mm fitting. Max. fitting torque = Standard \* G1/2" = 22 NmS = Automatic drain (with Technopolymer threads)

Max. fitting torque

(with threaded inserts)

\* no additional letter required

G3/8" = 25 Nm

G1/2" = 30 Nm

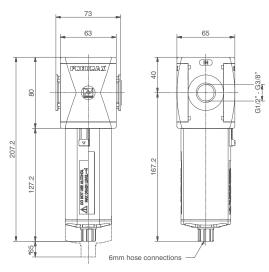
3

Flow rate curves

Operational characteristics

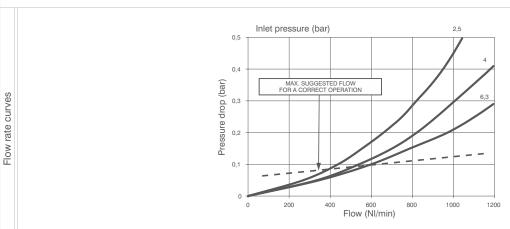
# Coalescing filter (D)





\*Bowl removal maximum height

Example: T173BDA: Coalescing size 3, Filter with Technopolymer threads, G1/2" connections, filter efficency 99,97%

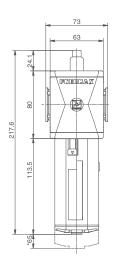


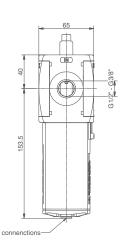
Operational characteristics	Technical characteristics			
Coalescing filter element with filtration grade of 0,01 $\mu m$	Connections	G 3/8" - G 1/2"		Ordering code
Transparent bowl made off polycarbonate with	Max. inlet pressure	13 bar		
bowl protection guard.	Minimum working pressure	0,5 bar		<b>Ø</b> 173 <b>@</b> D <b>@®</b>
Bowl assembly via bayonet type quick coupling	with automatic drain	0,5 Dai		VERSION
mechanism with safety button.	Maximum working pressure	401	V	N = Metal inserts
Semi-automatic drain mounted as standard;	with automatic drain	10 bar		T = Technopolymer thread CONNECTIONS
automatic drain upon request.	Working temperature	-5°C +50°C		A = G3/8"(only for "N" version)
Note	Weight with Technopolymer threads	gr. 325	•	B = G1/2"
n order to ensure a better grade of filtration it is recommended	Weight with threaded inserts	gr. 345		C = G1/2" NPT(only for "N" version
o use a 5 $\mu$ m filter before the coalescing filter. In order to ensure	- C		•	FILTER EFFICIENCY A = 99,97%
adequate flow on the auto drain version it is recommended to	with 0,01 μm particle	99,97%		OPTIONS
use minimum a 6mm fitting.	Bowl capacity	68cm <sup>3</sup>	0	= Standard *
ass million a similating.	Assembly positions	Vertical		S = Automatic drain
	Max. fitting torque			
	(with Technopolymer threads)	G1/2" = 22 Nm		
	Max. fitting torque	G3/8" = 25 Nm		
	(with threaded inserts)	G1/2" = 30 Nm		

\* no additional letter required

# Oil removal filter (DB)

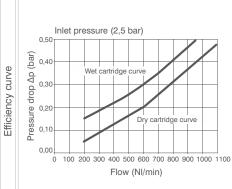


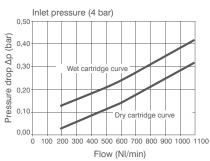


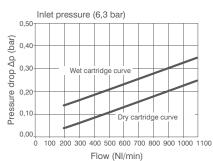


\*Bowl removal maximum height

Example: T173BDBV: size 3 Oil removal filter, with clogging gauge, Technopolymer threads, G1/2" connections.







# Operational characteristics

- Coalescing filtering cartridge particle removal 0,01 μm oil residual 0,01 ppm - Clogging gauge

green: proper working red: clogged cartridge ( $\Delta p$  0,5 bar) we recommend to change the cartridge

Transparent bowl made off polycarbonate with bowl protection guard.

· Bowl assembly via bayonet type quick coupling mechanism with safety button.

- Automatic drain mounted as standard.

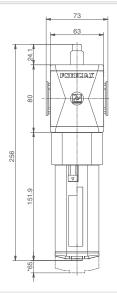
Note

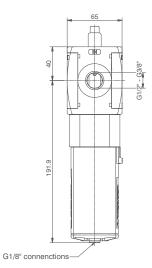
We recommend installing a 5  $\mu$ m filter upstream of the oil removal filter. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

Technical characteristics		
Connections	G 3/8" - G 1/2"	Γ
Nominal flow at 6,3 bar	1100 NI/min	ŀ
Filter efficiency	99,99%	
Max. inlet pressure	13 bar	ľ
Minimum working pressure	0,5 bar	ľ
with automatic drain	0,5 541	ŀ
Maximum working pressure	10 bar	l,
with automatic drain	10 541	
Working temperature	-5°C ÷ +50°C	
Weight with Technopolymer threads	gr. 440	
Weight with threaded inserts	gr. 460	
Bowl capacity	30 cm <sup>3</sup>	
Assembly positions	Vertical	
Max. fitting torque	G1/2" = 22 Nm	
(with Technopolymer threads)	G1/2 - 22 NIII	
Max. fitting torque	G3/8" = 25 Nm	
(with threaded inserts)	G1/2" = 30 Nm	

# High efficiency oil removal filter (DC)

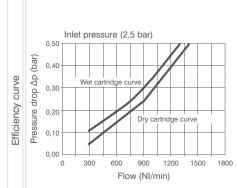


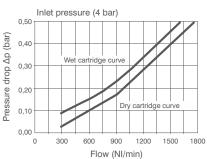


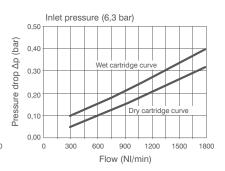


\*Bowl removal maximum height

Example: T173BDCV: size 3 High efficiency oil removal filter, with clogging gauge, Technopolymer threads, G1/2" connections.



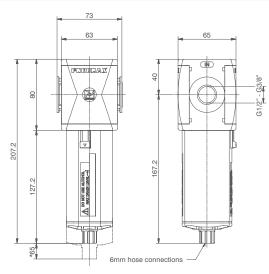




Operational characteristics	Technical characteristics		
Coalescing filtering cartridge	Connections	G 3/8" - G 1/2"	Ordering code
particle removal 0,01 $\mu$ m	Nominal flow at 6,3 bar	1800 NI/min	
oil residual 0,01 ppm	Filter efficiency	99,99%	<b>Ø</b> 173 <b>⊚</b> DCV
Clogging gauge	Max. inlet pressure	13 bar	VERSION
green: proper working	Minimum working pressure	0,5 bar	N = Metal inserts
red: clogged cartridge (Δp 0,5 bar)	with automatic drain	0,5 Dai	T = Technopolymer thread  CONNECTIONS
we recommend to change the cartridge	Maximum working pressure	10 hau	A = G3/8"(only for "N" version)
Transparent bowl made off polycarbonate with	with automatic drain	10 bar	B = G1/2"
bowl protection guard.	Working temperature	-5°C ÷ +50°C	C = G1/2" NPT(only for "N" version
Bowl assembly via bayonet type quick coupling	Weight with Technopolymer threads	gr. 640	
mechanism with safety button.	Weight with threaded inserts	gr. 660	
Automatic drain mounted as standard.	Bowl capacity	30 cm <sup>3</sup>	
Note	Assembly positions	Vertical	
We recommend installing a 5 $\mu$ m filter upstream of the oil	Max. fitting torque	C1/0II 00 N	
removal filter. In order to ensure adequate flow on the auto	(with Technopolymer threads)	G1/2" = 22 Nm	
drain version it is recommended to use minimum a 6mm fitting	Max. fitting torque	G3/8" = 25 Nm	
	(with threaded inserts)	G1/2" = 30 Nm	

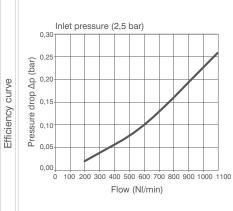
# Carbon filter (DD)

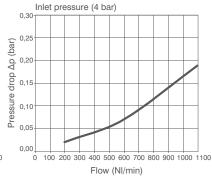


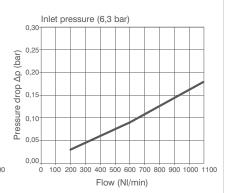


\*Bowl removal maximum height

Example: T173BDD: size 3 Carbon filter, Technopolymer threads, G1/2" connections.

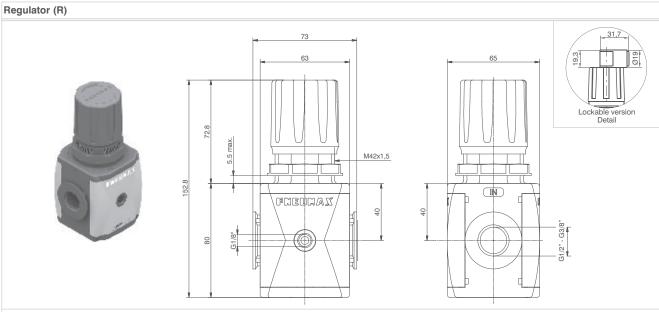




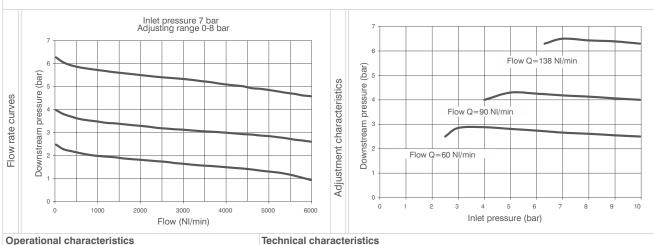


Operational characteristics	Technical characteristics			
- Active carbon cartridge with built in particulate filter.	Connections	G 3/8" - G 1/2"		Ordering code
Used to remove oil vapours, hydrocarbons, odours and	Nominal flow at 6,3 bar	1100 NI/min		
particles coming from the compressed air lines or gasses in	Cartridge life	2000 hours		<b>Ø</b> 173 <b>⊚</b> DD
industrial applications. Oil residue up to <0,003 ppm	Max. inlet pressure	13 bar		VERSION
(max imput aereosol 0.01ppm).	Working temperature	-5°C +50°C		N = Metal inserts
- Innovative filtering technology; high absorption capacity,	Weight with Technopolymer threads	gr. 440		T = Technopolymer thread CONNECTIONS
with low differential pressure.	Weight with threaded inserts	gr. 460	H	A = G3/8"(only for "N" version)
- Transparent bowl made off polycarbonate with	Bowl capacity	30 cm <sup>3</sup>		B = G1/2"
bowl protection guard.	Assembly positions	Vertical		C = G1/2" NPT(only for "N" version)
- Bowl assembly via bayonet type quick coupling	Max. fitting torque	G1/2" = 22 Nm		
mechanism with safety button.	(with Technopolymer threads)	G1/2 = 22 NIII		
- Semi-automatic drain mounted as standard.				
Note				
A 5 micron filter followed by a coalescing filter must be	Max. fitting torque	CO/01 OF Non		
installed before the Oil removal filter in order to ensure the	(with threaded inserts)	G3/8" = 25 Nm		
correct functionality of the unit and to safeguard the life of the	(with threaded inserts)	G1/2" = 30 Nm		
active carbon cartridge. It is also necessary to preventively				

replace the cartridges at fixed intervals.

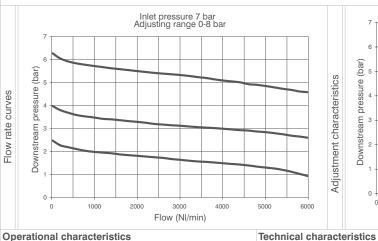


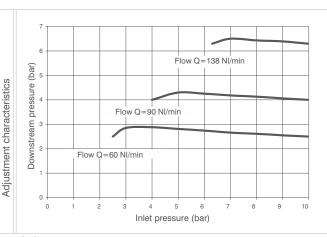
Example: T173BRC: size 3, Regulator with Technopolymer threads, G1/2" connections, 0 to 8 bar adjusting range



Operational characteristics	recnnical characteristics			
- Diaphragm pressure regulator with relieving.	Connections	G 3/8" - G 1/2"		Ordering code
- Low hysteresis rolling diaphragm.	Max. inlet pressure	13 bar		
- Balanced system.	Working temperature	-5°C +50°C		<b>Ø</b> 173 <b>©</b> R <b>©©</b>
- Available in four pressure ranges up to 12 bar.	Pressure gauge connections	G 1/8"		VERSION
- Operating knob can be locked in position by pressing it	Weight with Technopolymer threads	gr. 360	V	N = Metal inserts
down once the desired P2 (regulated pressure)	Weight with threaded inserts	gr. 380		T = Technopolymer thread CONNECTIONS
pressure value is achieved.	Draeeure renes	0-2 bar / 0-4 bar	0	A = G3/8"(only for "N" version)
- Fitted with panel mounting locking ring.	Pressure range	0-8 bar / 0-12 bar	9	B = G1/2"
Note	Assembly positions	Indifferent	_	C = G1/2" NPT(only for "N" version)
The pressure must be always regulating while increasing. For	Max. fitting torque	G1/8" = 4 Nm		ADJUSTING RANGE A = 0-2 bar
a more precise regulation and higher sensibility, the use of a	(with Technopolymer threads)	G1/2" = 22 Nm	<b>©</b>	B = 0-4 bar
regulator with a pressure range as close as possible to the	(		1	C = 0-8 bar
regulated pressure is recommended.				D = 0-12 bar
regulated pressure is recommended.				TYPE = Standard *
				F = Controlled refiel +
	Max. fitting torque	G3/8" = 25 Nm	0	improved relieving
	(with threaded inserts)	G1/2" = 30 Nm		L = no relieving
				R = Improved relieving
				OPTIONS
			0	= Standard *
				K = Lockable version

\* no additional letter required Example: T173BRMC: size 3, Regulator including gauge with Technopolymer threads, G1/2" connections, 0 to 8 bar adjusting range





Operational characteris	tics
-------------------------	------

Diaphragm pressure regulator with relieving.

Low hysteresis rolling diaphragm.

Balanced system.

Available in four pressure ranges up to 12 bar.

Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.

Fitted with panel mounting locking ring.

Integrated manometer 0-12 bar as standard

(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

# Note

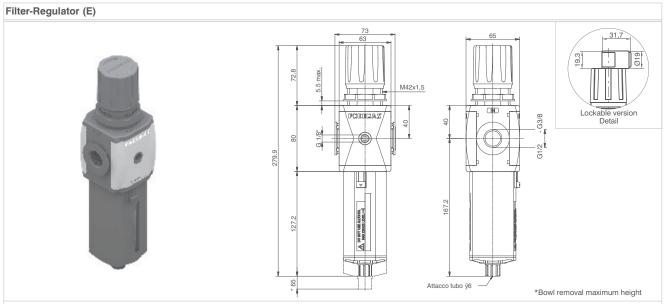
The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Connections	G 3/8" - G 1/2"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 370
Weight with threaded inserts	gr. 390
Pressure range	0-2 bar / 0-4 bar
r ressure range	0-8 bar / 0-12 bar
Assembly positions	Indifferent
Max. fitting torque	G1/2" = 22 Nm
(with Technopolymer threads)	G1/2 - 22 NIII

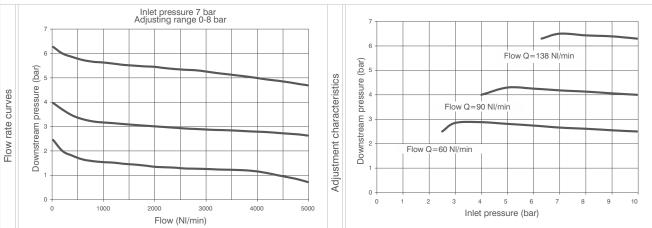
Max. fitting torque	G3/8" = 25 Nm
(with threaded inserts)	G1/2" = 30 Nm

	Ordering code		
<b>Ø</b> 173 <b>©</b> R <b>D©©</b>			
•	VERSION  N = Metal inserts  T = Technopolymer thread		
0	CONNECTIONS $A = G3/8"(only for "N" version)$ $B = G1/2"$ $C = G1/2" NPT(only for "N" version)$		
<b>D</b>	FLOW DIRECTION  M = from left to right  W = from right to left		
œ	ADJUSTING RANGE  A = 0-2 bar  B = 0-4 bar  C = 0-8 bar  D = 0-12 bar		
•	TYPE = Standard * F = Controlled refiel + improved relieving L = no relieving R = Improved relieving		
•	OPTIONS = Standard * K = Lockable version		

\* no additional letter required



 $\textbf{Example: T173BEBC: size 3, Filter-regulator with Technopolymer threads, G1/2" connections, 20~\mu m filtering pore size, 0~to~8~bar adjusting range} \\$ 



# **Operational characteristics**

- Filter diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5µm, 20µm and 50µm) can be regenerated by washing it or replaced.
- Transparent bowl made off polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard; automatic drain upon request.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.

### Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

echnical	characteristics	

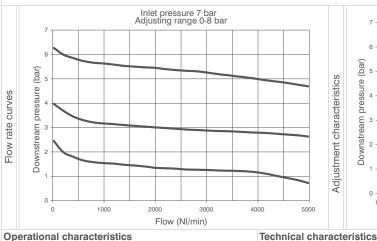
Т

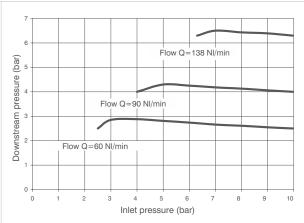
Connections	G 3/8" - G 1/2" Ordering code		Ordering code	
Max. inlet pressure	13 bar			
Minimum working pressure	0.5 hav	<b>Ø</b> 173 <b>©E©©©</b>		
with automatic drain	0,5 bar		VERSION	
Maximum working pressure		V	N = Metal inserts	
with automatic drain	10 bar		T = Technopolymer thread	
		-	CONNECTIONS	
Working temperature	-5°C +50°C	0	A = G3/8"(only for "N" version)	
Pressure gauge connections	G 1/8"		B = G1/2"	
Weight with Technopolymer threads	gr. 470		C = G1/2" NPT(only for "N" version)	
Weight with threaded inserts		-	FILTER PORE SIZE	
Weight with threaded inserts	gr. 490	8	$A = 5 \mu m$	
Pressure range	0-2 bar / 0-4 bar		$B = 20 \mu m$ $C = 50 \mu m$	
. researe range	0-8 bar / 0-12 bar		ADJUSTING RANGE	
Filter pore size	ze 5 μm - 20 μm - 50 μm		A = 0-2 bar	
Bowl capacity	68 cm <sup>3</sup>	G	B = 0-4 bar	
Assembly positions	Vertical	-	C = 0-8 bar	
, ,			D = 0-12 bar	
Max. fitting torque	G1/8" = 4 Nm		TYPE	
(with Technopolymer threads)	G1/2" = 22 Nm		= Standard *	
			S = Automatic drain	
			OPTIONS	
		0	= Standard *	
	G3/8" = 25 Nm		K = Lockable version	
Max. fitting torque			* no additional	
(with threaded inserts)	C1/0" - 30 Nm		letter required	
(with threaded inserts)	G1/2" = 30 Nm			

Filter-regulator including gauge (EM)(EW)

Adjustment characteristics

Connections





G 3/8" - G 1/2"

# Operational characteristics

Filter - diaphragm pressure regulator with relieving.

Low hysteresis rolling diaphragm.

Balanced system.

Double filtering action: air flow centrifugation and filter element.

Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5µm, 20µm and 50µm) can be regenerated by washing it or replaced.

Transparent bowl made of polycarbonate with bowl protection guard.

Bowl assembly via bayonet type quick coupling mechanism with safety button.

Semi-automatic drain mounted as standard; automatic drain upon request.

Available in four pressure ranges up to 12 bar.

Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.

Fitted with panel mounting locking ring.

Integrated manometer 0-12 bar as standard

(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting

Max. inlet pressure	13 bar
Minimum working pressure with automatic drain	0,5 bar
Maximum working pressure with automatic drain	10 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 480
Weight with threaded inserts	gr. 500
Pressure range	0-2 bar / 0-4 bar
i ressure range	0-8 bar / 0-12 bar

Filter pore size  $5 \mu m - 20 \mu m - 50 \mu m$ Bowl capacity 68 cm<sup>3</sup> Assembly positions Vertical Max. fitting torque G1/2" = 22 Nm(with Technopolymer threads)

Max. fitting torque G3/8" = 25 Nm (with threaded inserts) G1/2" = 30 Nm

# Ordering code **V173@ED9@@**

T = Technopolymer thread

VERSION

N = Metal inserts

V

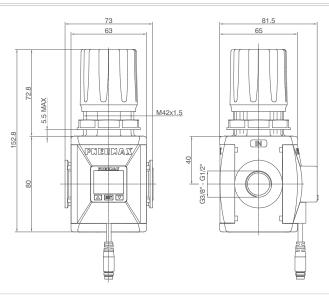
CONNECTIONS A = G3/8"(only for "N" version 0 B = G1/2" C = G1/2" NPT(only for "N" vers FLOW DIRECTION M = from left to right W = from right to left FILTER PORE SIZE

 $A = 5 \mu m$ 8  $B = 20 \,\mu m$  $C = 50 \, \mu m$ ADJUSTING RANGE A = 0-2 bar**B** = 0-4 bar

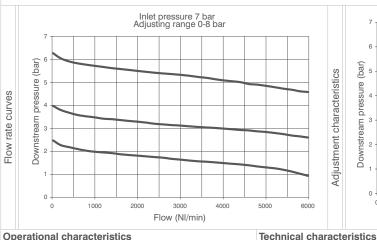
C = 0-8 bar  $D = 0-12 \, bar$ TYPE = Standard \*

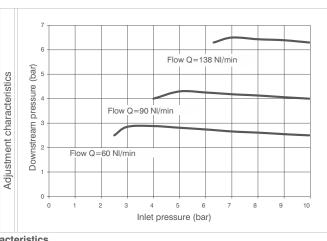
S = Automatic drain OPTIONS 0 = Standard \* K = Lockable version

> no additional letter required



Example: T173BRPCA: size 3, Regulator with Technopolymer threads, G1/2" connections, 0 to 8 bar adjusting range, with pressure switch with M8 connector PNP





Operational	cnaracteristics

- Diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Pressure switch as standard

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

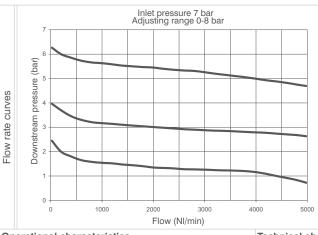
	recrimical characteristics		
	Connections	G 3/8" - G 1/2"	Γ
	Max. inlet pressure	13 bar	H
	Working temperature	0°C ÷ +50°C	
	Weight with Technopolymer threads	gr. 370	Г
	Weight with threaded inserts	gr. 390	•
	Pressure range	0-2 bar / 0-4 bar	H
	Tressure range	0-8 bar / 0-12 bar	
	Assembly positions		Indifferent
	Max. fitting torque	G1/2" = 22 Nm	H
	(with Technopolymer threads)	G1/2 - 22 NIII	(
			L

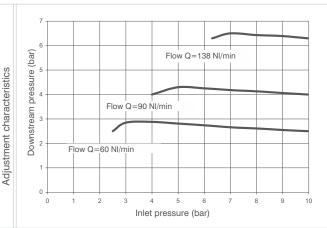
/8" = 25 Nm
/2" = 30 Nm

	Ordering code
	<b>0</b> 173 <b>0</b> R <b>00000</b>
	VERSION N = Metal inserts
	T = Technopolymer thread
	CONNECTIONS
0	A = G3/8"(only for "N" version)
G	B = G1/2"
	C = G1/2" NPT(only for "N" version)

- FLOW DIRECTION P = from left to right Z = from right to left ADJUSTING RANGE A = 0-2 bar
- **6** B = 0-4 bar C = 0-8 bar
- D = 0-12 bar TYPE = Standard \* F = Controlled refiel + improved relieving
- L = no relieving R = Improved relieving OPTIONS = Standard \*
- K = Lockable version PRESSURE SWITCH OPTION A = Cable 150 mm+M8 PNP B = Cable 150 mm+M8 NPN C = Cable 2 mt. PNP
  - D = Cable 2 mt. NPN \* no additional letter required

Example: T173BEPBCA: size 3, Filter-regulator with Technopolymer threads, G1/2" connections, 20  $\mu$ m filtering pore size, 0 to 8 bar adjusting range, with pressure switch with M8 connector PNP





# Operational characteristics

- Filter diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5μm, 20μm and 50μm) can be regenerated by washing it or replaced.
- Transparent bowl made off polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard;
   automatic drain upon request
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Pressure switch as standard

## Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

Technical	characteristics

Technical characteristics			
Connections	G 3/8" - G 1/2"	Ordering code  173@EDS@GOD	
Max. inlet pressure	13 bar		
Minimum working pressure	0,5 bar		
with automatic drain			VERSION
Maximum working pressure	401	V	N = Metal inserts
with automatic drain	10 bar		T = Technopolymer thread
Working temperature	0°C ÷ +50°C	-	CONNECTIONS  A = G3/8"(only for "N" version)
0 1		•	B = G1/2"
Weight with Technopolymer threads	gr. 480		C = G1/2" NPT(only for "N" version)
Weight with threaded inserts	gr. 500		FLOW DIRECTION
B	0-2 bar / 0-4 bar	•	P = from left to right
Pressure range	0-8 bar / 0-12 bar		Z = from right to left
Filter pore size		8	FILTER PORE SIZE
'	5 μm - 20 μm - 50 μm		$A = 5 \mu m$
Bowl capacity	68 cm³	•	$B = 20 \mu m$
Assembly positions	Vertical		$C = 50 \mu m$
Max. fitting torque			ADJUSTING RANGE
0 1	G1/2" = 22 Nm	e	A = 0-2 bar
(with Technopolymer threads)			B = 0-4 bar
			C = 0-8 bar
			D = 0-12 bar
		0	TYPE
			= Standard *
			S = Automatic drain OPTIONS
Max. fitting torque	G3/8" = 25 Nm	0	= Standard *
(with threaded inserts)	G1/2" = 30 Nm	•	K = Lockable version
	3.,2 33.1111	<b>P</b>	PRESSURE SWITCH OPTION
			A = Cable 150 mm+M8 PNP
			B = Cable 150 mm+M8 NPN
			C = Cable 2 mt. PNP
			D = Cable 2 mt. NPN

\* no additional

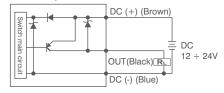


#### **CHARACTERISTICS**

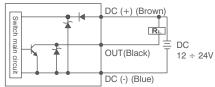
- 3 color digital LCD display, easy readout
- 4 units of measurement for pressure indication
- PNP and NPN output N.O. and N.C. output contact
- Not available individually, but only with a Regulator or a Filter-regulator

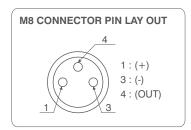
#### **OUTPUT CIRCUIT WIRING DIAGRAMS**

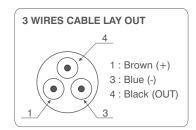
#### **PNP** output



#### **NPN** output







#### Cable ordering code

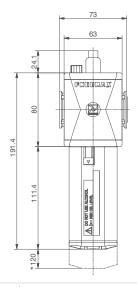
MCH1 cable 3 wires I=2,5m with M8 connector MCH2 cable 3 wires I=5m with M8 connector **МСН3** cable 3 wires I=10m with M8 connector

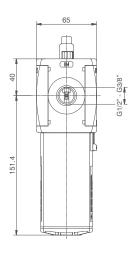


TECHNICAL CHARACTERISTICS					
Adjusting range	0 ÷ 10 bar / 0 ÷ 1MPa				
Max. inlet pressure	15 bar / 1,5 MPa				
Fluid	Filtered and dehumidified air				
Display unit of measurement	MPa - kgf/cm² - bar - psi				
Supply voltage	12 ÷ 24 VDC				
Current consumption	≤40mA (without load)				
Digital output type	NPN - PNP				
Type of contact	Normally Open - Normally Closed				
Max. load current	125 mA				
Digital output activation mode	single threshold with fixed hysteresis - window with fixed hysteresis - window without hysteresis				
Digital output activation time	0.05s - 0.25s - 0.5s - 1s - 2s - 3s (selections for chattering-proof function)				
Display characteristics	Double 3 1/2 digit display Digital output status indication Three-pushbuttons touchpad				
Indicator accuracy	≤±2% F.S. ± 1 digit				
Protection grade	IP 40				
Temperature	0 ÷ 50 °C				
Cable section	3 x 0,129mm², Ø4 mm, PVC				

#### Lubricator (L)

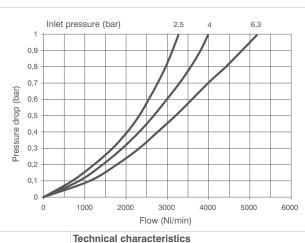






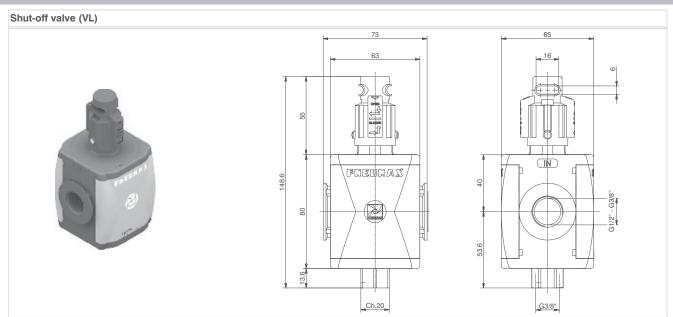
\*Bowl removal maximum height

Example: T173BL: size 3, Lubricator with Technopolymer threads, G1/2" connections



Flow rate curves

Operational characteristics	Technical characteristics			
- Oil mist lubrication with variable orifice size in function	Connections	G 3/8" - G 1/2"		Ordering code
of the flow rate	Max. inlet pressure	13 bar		
- Oil quantity regulation mechanism and oil quantity	Working temperature	-5°C +50°C		<b>Ø</b> 173 <b>@</b> L <b>⊚</b>
visualization dome made of polycarbonate.	Weight with Technopolymer threads	gr. 290		VERSION
- Transparent bowl made off polycarbonate with	Weight with threaded inserts	gr. 310	V	N = Metal inserts
bowl protection guard.	Lord and the all relations and	1 drop every		T = Technopolymer thread  CONNECTIONS
- Bowl assembly via bayonet type quick coupling mechanism	Indicative oil drip rate	300/600 NI		A = G3/8"(only for "N" version)
with safety button.	Oil type	FD22 - HG32	•	B = G1/2"
- Oil filling plug	Bowl capacity	136 cm <sup>3</sup>		C = G1/2" NPT(only for "N" version)
- Oil can be refilled with pressurized circuit.	Assembly positions	Vertical		OPTIONS  A = Min. Oil level indicator
- Available with electric min-level sensor N.O. or N.C. with	Max. fitting torque		0	Normally open
connection for connector.	(with Technopolymer threads)	G1/2"= 22 Nm		C = Min. Oil level indicator Normally closed
- For electrical connection use connectors type	Max. fitting torque	G3/8" = 25 Nm		reormany dioded
C1-C2-C3 (see sensors chapter in the catalogue).	(with threaded inserts)	G1/2" = 30 Nm		
Note				
Install as close as possible to the point o fuse	Min. operational flow at 6,3 bar	100 NI/min.		
Do not use alcohol, deterging oils or solvents.				



Example: T173BVL : size 3, Shut-off valve with Technopolymer threads, G1/2" connections

- Manual operated 3 ways poppet valve.
- Double handle action for valve opening: pushing and rotating (clockwise).
- The valve can be closed and the down stream circuit depressurized by rotating anticlockwise the knob.
- Knob lockable with three padlocks.

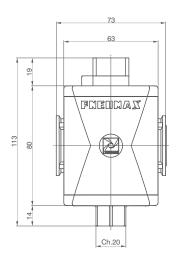
#### Technical characteristics

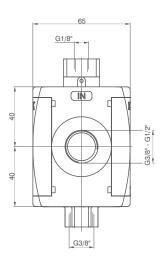
Connections	G 3/8" - G 1/2"	Ordering code
Max. inlet pressure	13 bar	
Discharge connection	G3/8"	<b>Ø</b> 173 <b>@</b> VL
Working temperature	-5°C +50°C	VERSION
Weight with Technopolymer threads	gr. 230	N = Metal inserts
Weight with threaded inserts	gr. 250	T = Technopolymer thread  CONNECTIONS
Assembly positions	Indifferent	A = G2/9"(
Handle opening and closing angle	90°	B = G1/2"
Max. fitting torque	- 00	C = G1/2" NPT(only for "N" version)
(with Technopolymer threads)	G1/2" = 22 Nm	
Max. fitting torque	G3/8" = 25 Nm	
(with threaded inserts)	G1/2" = 30 Nm	
Nominal flow rate	0000 NII/	
at 6 bar with Δp=1	3600 NI/min.	
Exhaust nominal flow rate	4500 NII/	
at 6 bar with Δp=1	1500 NI/min.	



#### Pneumatic shut-off valve (VP)







Example: T173BVP : size 3, Pneumatic shut-off valve with Technopolymer threads, G1/2" connections

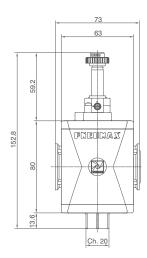
Operational characteristics	Technical characteristics			
- Pneumatic operated 3 ways poppet valve.	Connections	G 3/8" - G 1/2"		Ordering code
- When the pneumatic signal is removed the	Discharge connection	G3/8"		
valves exhaust the pneumatic circuit	Pilot port size	G1/8"		<b>Ø</b> 173 <b>@</b> VP
	Working temperature	-5°C ÷ +50°C		VERSION
	Weight with technopolymer threads	gr. 254	V	N = Metal inserts
	Weight with threaded inserts	gr. 270		T = Technopolymer thread
	Assembly positions	Indifferent	1_	CONNECTIONS  A = G3/8"(only for "N" version)
	Min. pressure working	2,5 bar	0	B = G1/2"
	Max. pressure working	10 bar		C = G1/2" NPT(only for "N" version)
		10 bar	-	
	Max. fitting torque	G1/2" = 22 Nm		
	(with Technopolymer threads)			
	Max. fitting torque	G3/8" = 25 Nm		
	(with threaded inserts)	G1/2" = 30 Nm		
	Nominal flow rate	3600 NI/min.		
	at 6 bar with Δp=1	SOUU MI/MIN.		
	Exhaust nominal flow rate	1500 NI/min.		
	at 6 har with An-1	1500 M/mm.		

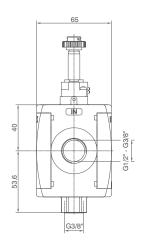
at 6 bar with ∆p=1



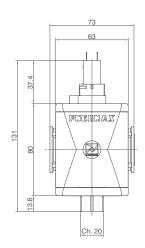
#### Electric shut-off valve (VE)

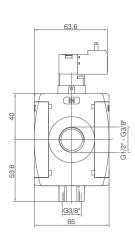












Example: T173BVEB2: size 3, Electric shut-off valve, with M2 Pilot without coil, Technopolymer threads, G1/2" connections

#### Operational characteristics

- Solenoid operated 3 ways poppet valve.
- The model fitted with 15 mm pilots uses pilots series N33\_0A and N33\_0E (1 Watt)

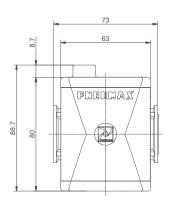
#### **Technical characteristics**

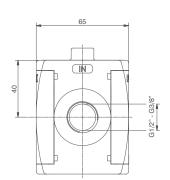
Supply and operating connections	G 3/8" - G 1/2"		Ordering code
Discharge connections	G 3/8"		
Working temperature	-5°C ÷ +50°C		<b>Ø</b> 173 <b>@</b> VE <b>Ø</b>
Weight with Technopolymer threads	290 g		VERSION
Weight with threaded inserts	310 g	V	N = Metal inserts
Assembly positions	Indifferent		T = Technopolymer thread
, ,			CONNECTIONS
Min. Pressure working	2,5 bar	•	A = G3/8"(only for "N" version)
Max. Pressure working	10 bar		B = G1/2"
Max. fitting torque		_	C = G1/2" NPT(only for "N" version
(with Technopolymer threads)	G1/2" = 22 Nm		15 mm COIL VOLTAGE A4 = 12 V DC
, ,	G3/8" = 30 Nm	-	A5 = 24 V DC
Max. fitting torque			A6 = 24 V AC (50-60 Hz)
(with threaded inserts)	G1/2" = 25 Nm		A7 = 110 V AC (50-60 Hz)
Nominal flow rate	0000 NH/main		A8 = 220 V AC (50-60 Hz)
at 6 bar with Δp=1	3600 NI/min.	<b>A</b>	A9 = 24 V DC (1 Watt)
			22 mm COIL VOLTAGE
			B2 = Without coil
			M2 mechanic
			B4 = 12 V DC
			B5 = 24 V DC
			B6 = 24 V AC (50-60 Hz)
Exhaust nominal flow rate			B7 = 110 V AC (50-60 Hz)
at 6 bar with Δp=1	1500 NI/min.		B8 = 220 V AC (50-60 Hz)
at 6 Dai With $\Delta p = 1$			B9 = 24 V DC (2 Watt)
			30 mm COIL VOLTAGE
			C5 = 24 V DC
			C6 = 24 V AC (50-60 Hz)
			C7 = 110 V AC (50-60 Hz)
			C8 = 230 V AC (50-60 Hz)
			C9 = 24 V DC (2 Watt)



#### Progressive start-up valve (AP)







Example: T173BAP: size 3, Progressive start-up valve with Technopolymer threads, G1/2" connections

#### Operational characteristics

#### Down stream circuit filling time regulated via a built in flow regulator.

- Full pressure is allowed once the down stream circuit pressure reaches 50% of the inlet pressure.

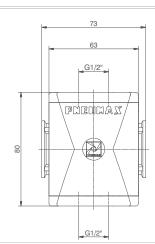
#### Technical characteristics

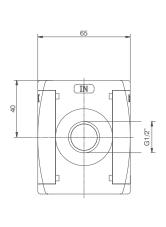
Connections	G 3/8" - G 1/2"		
Max. inlet pressure	13 bar		
Working temperature	-5°C ÷ +50°C		
Weight with Technopolymer threads	gr. 220		VE
Weight with threaded inserts	gr. 240	V	N
Max. fitting torque	C4/0II 00 Nas		C
(with Technopolymer threads)	G1/2" = 22 Nm	0	A
Max. fitting torque	G3/8" = 25 Nm	•	В
(with threaded inserts)	G1/2" = 30 Nm		С
Assembly positions	Indifferent		
Min. pressure working	2,5 bar		
Nominal flow rate	0000 1111		
at 6 bar with Δp=1	3600 NI/min.		
Fully open built in flow			
regulator flow rate	200 NI/min.		

# Ordering code 173@AP VERSION N = Metal inserts T = Technopolymer thread CONNECTIONS A = G3/8"(only for "N" version) B = G1/2" C = G1/2" NPT(only for "N" version)

#### Air intake (PA)

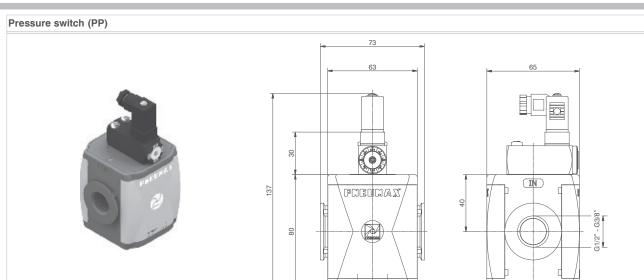






Example: T173BPA: size 3, Air intake with Technopolymer threads, G1/2" connections

#### **Operational characteristics Technical characteristics** Available with two G1/2" threaded connections. Connections G 1/2" Ordering code Max. inlet pressure 13 bar Attenction T173BPA Working temperature -5°C ÷ +50°C For this product are available only Technopolymer connections Weight gr. 151 Assembly positions Indifferent Max. fitting torque G1/2" = 22 Nm(with Technopolymer threads)



Example: T173BPP: Size 3, Pressure switch with Technopolymer threads, G1/2" connections

#### Operational characteristics

- Built in adjustable pressure switch (2 to 10 bar) with electrical connection.
- G 1/2" threaded connection on the bottom face.
- The electrical connection is made by mean of a 15 mm connector DIN 43650 type C. The microswitch contact could be normally closed or open (change overswitch).

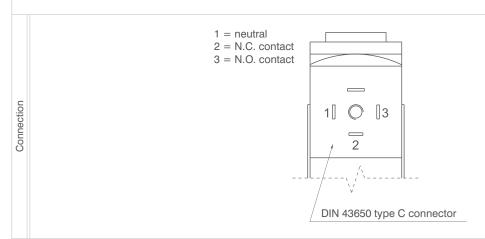
#### Attenction

For this product are available only Technopolymer connections

#### **Technical characteristics**

G1/2"

G 1/2"	Ordering code
13 bar	
-5°C +50°C	T173BPP
gr. 235	
1A	
IP 65	
11 00	
2-10 bar	
Indifferent	
G1/2" = 22 Nm	
G1/2 = 22 NIII	
250 VAC	
	13 bar -5°C +50°C gr. 235 1A IP 65 2-10 bar Indifferent G1/2" = 22 Nm



Ordering code

T173X



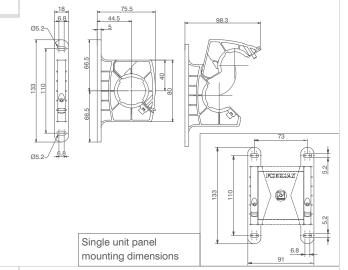
Weight 35 gr.
Example: T173X: Size 3 coupling flange
- Enables the quick connection of two functions.

#### Flange Y

Ordering code

T173Y





Weight 48 gr. Example: T173Y: Size 3 coupling flange with mounting holes - Used to couple together two elements and to panel mount them.

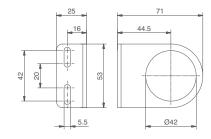
- Used to panel mount one single element.

#### Fixing bracket

Ordering code

T17250





Weight 71 gr. - Allows for regulators and filter regulators to be panel mounted.

#### Pressure gauge

#### Ordering code

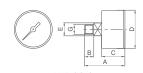
#### 17070**Ø**.**⑤**

	VERSION
V	A = Dial Ø40
	B = Dial Ø50
	SCALE

A = Scale 0-4 bar
B = Scale 0-6 bar C = Scale 0-12 bar





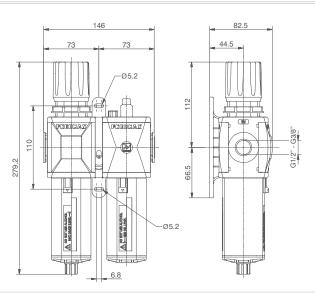


DIWLINGIONS							
CODE	Α	В	С	D	Е	G	Weight gr.
17070A	44	10	26	41	14	1/8"	60
17070B	45	10	27	49	14	1/8"	80

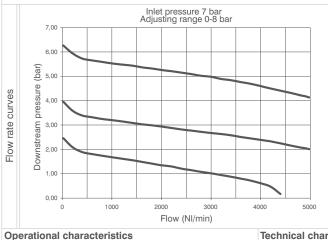


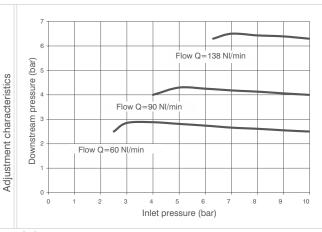
#### Service unit assembled (EM+L) (E+L) (EW+L)





Example: GT173BHG: size 3, combined group comprising Filter-regulator and Lubricator, Technopolymer threads, G1/2" connections, 0 to 8 bar adjusting range and 20 µm filter pore size





#### Operational characteristics

\* no additional letter required

Combined group comprising Filter-regulator with built in manometer and Lubricator assembled with a (Y) type coupling kit for panel mounting.

Integrated manometer 0-12 bar as standard

(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

#### Note

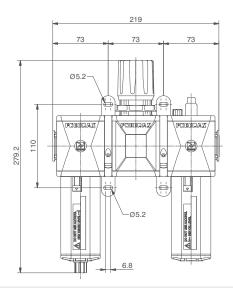
The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

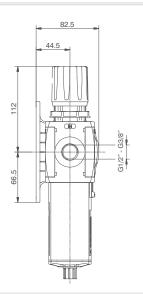
echnical	characteristics
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Connections	G 3/8" - G 1/2"		Ordering code		
Max. inlet pressure	13 bar				
Working temperature	-5°C +50°C	G <b>Ø</b> 173 <b>@@©</b> @ <b>0</b>			
Weight with Technopolymer threads	gr. 809		VERSION		
Weight with threaded inserts	gr. 849	V	N = Metal inserts		
	0-2 bar / 0-4 bar		T = Technopolymer thread		
Pressure range			CONNECTIONS		
	0-8 bar / 0-12 bar		A = G3/8"(only for "N" version)		
Filter pore size	5 μm - 20 μm - 50 μm		B = G1/2" $C = G1/2" NPT(only for "N" version)$		
Bowl capacity	68 cm <sup>3</sup>		TYPE		
	1 drop every	•	H = Built in gauge		
Indicative oil drip rate	300/600 NI		J = G1/8" gauge connection		
Oil tupo	FD22 - HG32	-	FILTER PORE SIZE		
Oil type		_	ADJUSTING RANGE		
Bowl capacity	136 cm <sup>3</sup>		$C = 5 \mu \text{m} / 0-8 \text{bar}$		
Assembly positions	Vertical	8	$D = 5 \mu m / 0-12 bar$		
Max. fitting torque			$G = 20 \mu m / 0-8 bar$		
(with Technopolymer threads)	G1/2" = 22 Nm		$H = 20 \mu\text{m} / 0.12 \text{bar}$		
, , ,	00/01/ 05 11	-	$N = 50 \mu\text{m} / 0-8 \text{bar}$ $P = 50 \mu\text{m} / 0-12 \text{bar}$		
Max. fitting torque	G3/8" = 25 Nm		OPTIONS		
(with threaded inserts)	G1/2" = 30 Nm		= Standard *		
			A = Min.oil level indicator NO		
			C = Min.oil level indicator NC		
		0	S = Automatic drain		
			SA = Automatic drain +		
Min and the second flower of O.O. bear	400 111/		Min.oil level indicator NC		
Min. operational flow at 6,3 bar	100 NI/min.		SC = Automatic drain +		
			Min.oil level indicator NC		
			FLOW DIRECTION		
		0	= Standard		
			(from left to right)		
			W = from right to left		

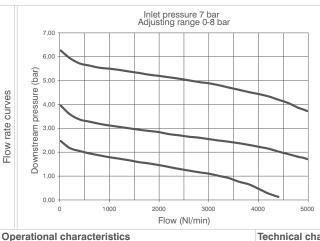
#### Service unit assembled (F+RM+L) (F+R+L) (F+RW+L)

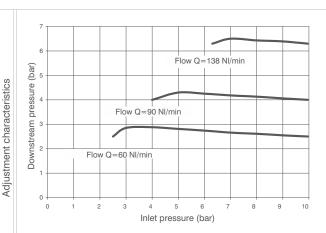






Example: GT173BKG: size 3 combined group comprising Filter, Regulator and Lubricator Technopolymer threads, G1/2" connections, 0 to 8 bar adjusting range and 20 µm filter pore size





Operational characterist	tics
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Combined group comprising Filter, Regulator with built in manometer and Lubricator assembled with two (Y) type coupling kits for panel mounting.

Integrated manometer 0-12 bar as standard

(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

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Connections	G 3/8" - G 1/2"		Ordering code
Max. inlet pressure	13 bar		
Working temperature	-5°C +50°C		G <b>Ø</b> 173 <b>@@©</b>
Weight with Technopolymer threads	gr. 1058		VERSION
Weight with threaded inserts	gr. 1118	V	N = Metal inserts
-	0-2 bar / 0-4 bar	_	T = Technopolymer thread
Pressure range	0-8 bar / 0-12 bar		CONNECTIONS  A = G3/8"(only for "N" version)
Filher neve size		•	A = G3/8"(only for "N" version)  B = G1/2"
Filter pore size	5 μm - 20 μm - 50 μm	_	C = G1/2" NPT(only for "N" version)
Bowl capacity	68 cm³		TYPE
Indicative oil drip rate	1 drop every	0	K = Built in gauge
indicative oil drip rate	300/600 NI		T = G1/8" gauge connection
Oil type	FD22 - HG32		FILTER PORE SIZE
71		-	ADJUSTING RANGE
Bowl capacity	136 cm <sup>3</sup>	_	$C = 5 \mu \text{m} / 0-8 \text{bar}$
Assembly positions	Vertical	8	$D = 5 \mu m / 0-12 bar$
Max. fitting torque			$G = 20 \mu\text{m} / 0.8 \text{bar}$
(with Technopolymer threads)	G1/2" = 22 Nm		$H = 20 \mu\text{m} / 0.12 \text{bar}$
, , ,	00/01 05 1	-	$N = 50 \mu\text{m} / 0.8 \text{bar}$
Max. fitting torque	G3/8" = 25 Nm		P = 50 μm / 0-12 bar OPTIONS
(with threaded inserts)	G1/2" = 30 Nm		= Standard *
			A = Min.oil level indicator NO
			C = Min.oil level indicator NO
		0	S = Automatic drain
		-	SA = Automatic drain +
Min. operational flow at 6,3 bar			Min.oil level indicator No
	100 NI/min.		SC = Automatic drain +
			Min.oil level indicator No
			FLOW DIRECTION
			= Standard
		0	

drain + el indicator NC ON

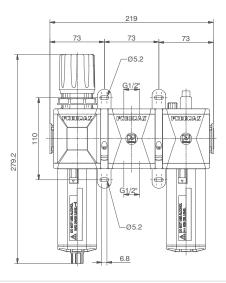
(from left to right)
W = from right to left

\* no additional letter required

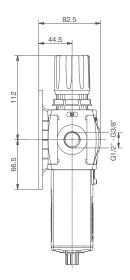


#### Service unit assembled (EM+PA+L) (E+PA+L) (EW+PA+L)

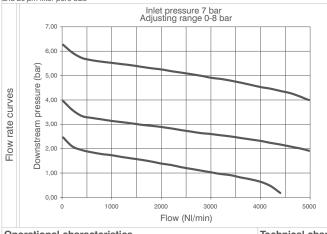


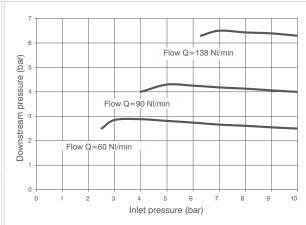


Adjustment characteristics



Example: GT173BNG: size 3 combined group comprising Filter-regulator, Air intake and Lubricator Technopolymer threads, G1/2" connections, 0 to 8 bar adjusting range and 20  $\mu$ m filter pore size





#### Operational characteristics

\* no additional letter required

Combined group comprising Filter-regulator with built in manometer, Air intake and Lubricator assembled with two (Y) type coupling kits for panel mounting. Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

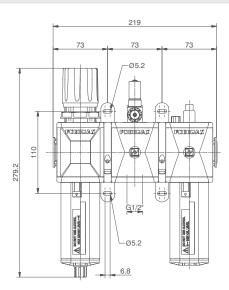
#### Note

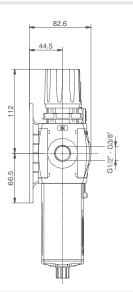
The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics			
Connections	G 3/8" - G 1/2"		Ordering code
Max. inlet pressure	13 bar		
Working temperature	-5°C +50°C		G <b>Ø</b> 173 <b>@@</b> \$@ <b>@</b>
Weight with Technopolymer threads	gr. 999		VERSION
Weight with threaded inserts	gr. 1039	V	14 Motal Moorto
_	0-2 bar / 0-4 bar	_	T = Technopolymer thread
Pressure range	0-8 bar / 0-12 bar		CONNECTIONS  A = G3/8"(only for "N" version)
Filter pore size	5 μm - 20 μm - 50 μm	•	B = G1/2"
Bowl capacity	68 cm <sup>3</sup>		C = G1/2" NPT(only for "N" version)
Вомі сарасіту			TYPE
Indicative oil drip rate	1 drop every	0	N = Built in gauge
	300/600 NI		P = G1/8" gauge connection FILTER PORE SIZE
Oil type	FD22 - HG32		ADJUSTING RANGE
Bowl capacity	136 cm <sup>3</sup>		$C = 5 \mu \text{m} / 0.8 \text{ bar}$
Assembly positions	Vertical	8	$D = 5 \mu m / 0-12 bar$
Max. fitting torque		•	$G = 20 \mu m / 0-8 bar$
(with Technopolymer threads)	G1/2" = 22 Nm		$H = 20 \mu\text{m} / 0.12 \text{bar}$
' ' '	00/01 05 N	-	$N = 50 \mu\text{m} / 0.8 \text{bar}$ $P = 50 \mu\text{m} / 0.12 \text{bar}$
Max. fitting torque	G3/8" = 25 Nm		OPTIONS
(with threaded inserts)	G1/2" = 30 Nm		= Standard *
			A = Min.oil level indicator NO
			C = Min.oil level indicator NC
		0	S = Automatic drain
			SA = Automatic drain +
			Min.oil level indicator NO
Min. operational flow at 6,3 bar 100 NI	100 NI/min.		SC = Automatic drain +
			Min.oil level indicator NC
			FLOW DIRECTION
			= Standard
		D	(from left to right)
			W = from right to left

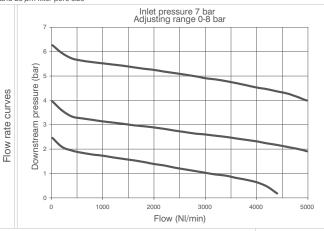
#### Service unit assembled (EM+PP+L) (E+PP+L) (EW+PP+L)

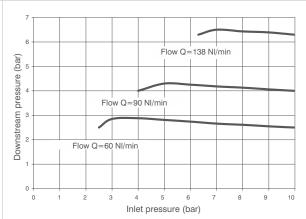






Example: GT173BRG: size 3 combined group comprising Filter-Regulator, Pressure switch and Lubricator Technopolymer threads, G1/2" connections 0 to 8 bar adjusting range and 20 µm filter pore size





#### Operational characteristics

Combined group comprising Filter-regulator with built in manometer, Pressure switch and Lubricator assembled with two (Y) type coupling kits for panel mountings.

Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

#### Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

recnnicai	cnaracteristics
Connections	;

Adjustment characteristics

Connections	G 3/8" - G 1/2"	
Max. inlet pressure	13 bar	H
Working temperature	-5°C +50°C	
Weight with Technopolymer threads	gr. 1083	r
Weight with threaded inserts	gr. 1123	1
Pressure range	0-2 bar / 0-4 bar	H
i ressure range	0-8 bar / 0-12 bar	l,
Filter pore size	5 μm - 20 μm - 50 μm	1
Bowl capacity	68 cm <sup>3</sup>	H
Indicative oil drip rete	1 drop every	
Indicative oil drip rate	300/600 NI	L
Oil type	FD22 - HG32	
Bowl capacity	136 cm <sup>3</sup>	
Assembly positions	Vertical	
Max. fitting torque	04/01 00 N	
(with Technopolymer threads)	G1/2" = 22 Nm	
Max. fitting torque	G3/8" = 25 Nm	L
(with threaded inserts)	G1/2" = 30 Nm	
		١.
		ľ
Min. operational flow at 6,3 bar	100 NI/min.	

### Ordering code GØ173@@S@D

VERSION

V	N = Metal inserts
	T = Technopolymer thread
	CONNECTIONS
	A = G3/8"(only for "N" version)
9	B = G1/2"
	C - C1/0" NDT

### B = G1/2" $C = G1/2" \ NPT(only for 'N' version)$ TYPE R = Built in gauge

## C = G1/8" gauge connection FILTER PORE SIZE ADJUSTING RANGE C = 5 µm / 0-8 bar G = 20 µm / 0-8 bar

- $H = 20 \mu m / 0-12 bar$   $N = 50 \mu m / 0-8 bar$   $P = 50 \mu m / 0-12 bar$  OPTIONS = Standard \*
- = Standard \*

  A = Min.oil level indicator NO

  C = Min.oil level indicator NC

  S = Automatic drain
  - S = Automatic drain

    SA = Automatic drain +

    Min.oil level indicator NO

    SC = Automatic drain +
- Min.oil level indicator NC

  FLOW DIRECTION

  Standard
  (from left to right)

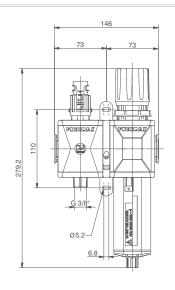
  W = from right to left

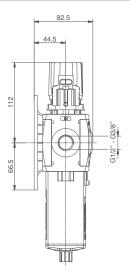
\* no additional letter required



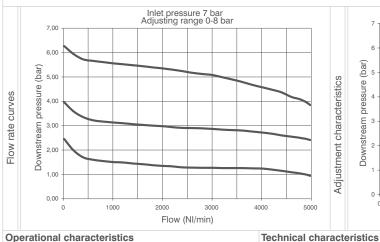
#### Service unit assembled (VL+EM) (VL+E) (VL+EW)

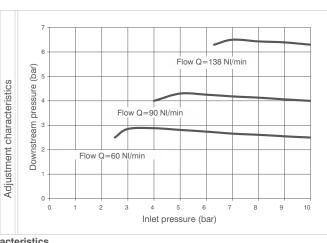






Example: GT173BVGG: size 3 combined group comprising Shut-off valve, Filter-regulator Technopolymer threads, G1/2" connections 0 to 8 bar adjusting range and 20 µm filter pore size





#### Operational characteristics

Combined group comprising manual shut-off valve, Filter regulator with built in manometer, assembled with one (Y) type coupling kit for panel mountings. Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

#### Note

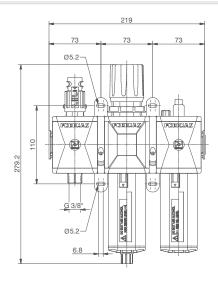
The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

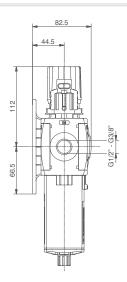
recrimical characteristics			
Connections	G 3/8" - G 1/2"		Ordering code
Max. inlet pressure	13 bar		
Working temperature	-5°C +50°C		G <b>♥</b> 173 <b>❷❶</b> ❸ <b>◎❷</b>
Weight with Technopolymer threads	gr. 749		VERSION
Weight with threaded inserts	gr. 789	V	
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar		T = Technopolymer thread  CONNECTIONS
Filter pore size	5 μm - 20 μm - 50 μm	0	A = G3/8"(only for "N" version) B = G1/2"
Bowl capacity	68 cm <sup>3</sup>	_	C = G1/2" NPT(only for "N" version)  TYPE
Indicative oil drip rate	1 drop every 300/600 NI	0	VG = Built in gauge VU = G1/8" gauge connection
Oil type	FD22 - HG32		FILTER PORE SIZE ADJUSTING RANGE
Bowl capacity	136 cm <sup>3</sup>		$C = 5 \mu \text{m} / 0.8 \text{ bar}$
Assembly positions	Vertical	8	D = 5 μm / 0-12 bar
Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm		$G = 20 \mu m / 0.8 \text{ bar}$ $H = 20 \mu m / 0.12 \text{ bar}$ $N = 50 \mu m / 0.8 \text{ bar}$
Max. fitting torque	G3/8" = 25 Nm		P = 50 μm / 0-12 bar
(with threaded inserts)	G1/2" = 30 Nm		OPTIONS
(		•	= Standard * S = Automatic drain
Min. operational flow at 6,3 bar	100 NI/min.	0	FLOW DIRECTION  = Standard (from left to right)

W = from right to left \* no additional letter required

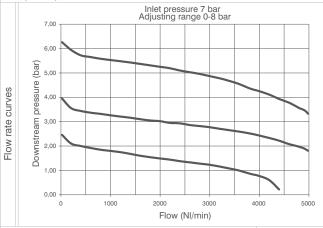
#### Service unit assembled (VL+EM+L) (VL+E+L) (VL+EW+L)

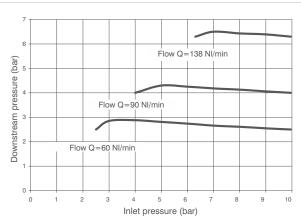






Example: GT173BVHG: Size 3 Combined group comprising Shut-off valve, Filter-regulator and Lubricator Technopolymer threads, G1/2" connections 0 to 8 bar adjusting range and 20  $\mu$ m filter pore size





Operational c	haracteristics
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Combined group comprising manual shut-off valve, Filter regulator with built in manometer and Lubricator assembled with two(Y) type coupling kits for panel mountings. Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

#### Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical	characteristics

Adjustment characteristics

Connections	G 3/8" - G 1/2"		Ordering code	
Max. inlet pressure	13 bar	0		
Working temperature	-5°C +50°C		<b>GØ173@⊕©</b> @	
Weight with Technopolymer threads	gr. 1078		VERSION	
Weight with threaded inserts	gr. 1138	V	N = Metal inserts	
3	0-2 bar / 0-4 bar		T = Technopolymer threa	
Pressure range			CONNECTIONS	
	0-8 bar / 0-12 bar	•	A = G3/8"(only for "N" version)	
Filter pore size	5 μm - 20 μm - 50 μm		B = G1/2"	
Bowl capacity	68 cm <sup>3</sup>		C = G1/2" NPT(only for "N" ve	
Down capacity	00 0	-	TYPE	
Indicative oil drip rate	1 drop every	•	VH = Built in gauge	
	300/600 NI		VJ = G1/8" gauge conne	
Oil type	FD22 - HG32		FILTER PORE SIZE	
**		-	ADJUSTING RANGE	
Bowl capacity	136 cm <sup>3</sup>	_	$C = 5 \mu \text{m} / 0-8 \text{bar}$	
Assembly positions	Vertical	8	$D = 5 \mu \text{m} / 0 - 12 \text{bar}$	
Max. fitting torque			G = 20 μm / 0-8 bar	
(with Technopolymer threads)	G1/2" = 22  Nm		$H = 20 \mu\text{m} / 0-12 \text{bar}$	
, , ,		-	$N = 50 \mu \text{m} / 0-8 \text{bar}$	
Max. fitting torque	G3/8" = 25 Nm		$P = 50 \mu\text{m} / 0-12 \text{bar}$	
(with threaded inserts)	G1/2" = 30 Nm		OPTIONS	
			= Standard *	
			A = Min.oil level indicato C = Min.oil level indicato	
		0		
			SA = Automatic drain +	
Min. operational flow at 6,3 bar	100 NI/min.		Min.oil level indicate	
			SC = Automatic drain +	
			Min.oil level indicato	
			FLOW DIRECTION	
			= Standard	

#### Ordering code

N = Metal inserts	
T = Technopolymer threa	ad
CONNECTIONS	
A = G3/8"(only for "N" version)	
B = G1/2"	

#### C = G1/2" NPT(only for "N" version) ГҮРЕ VH = Built in gauge VJ = G1/8" gauge connection FILTER PORE SIZE

#### ADJUSTING RANGE $C = 5 \, \mu \text{m} / 0 - 8 \, \text{bar}$ $D = 5 \, \mu \text{m} / 0 - 12 \, \text{bar}$ $G = 20 \, \mu \text{m} / 0.8 \, \text{bar}$ $H = 20 \, \mu \text{m} / 0 - 12 \, \text{bar}$ $N = 50 \, \mu \text{m} / 0-8 \, \text{bar}$

	$P = 50  \mu m / 0 - 12  bar$
	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
0	S = Automatic drain

0	S = Automatic drain
	SA = Automatic drain +
	Min.oil level indicator
	SC = Automatic drain +

NO

Min.oil level indicator NC FLOW DIRECTION = Standard

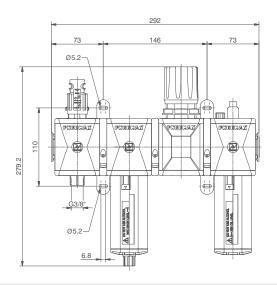
(from left to right)
W = from right to left

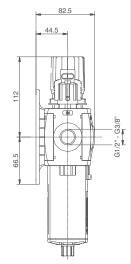
\* no additional letter required



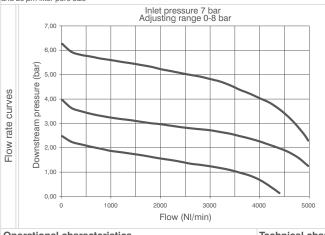
#### Service unit assembled (VL+F+RM+L) (VL+F+R+L) (VL+F+RW+L)

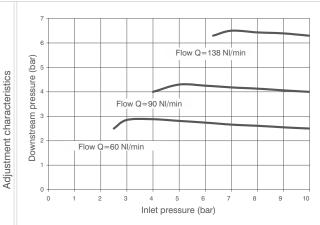






Example: GT173BVKG: size 3 combined group comprising Shut-off valve, Filter, Regulator and Lubricator Technopolymer threads, G1/2" connections 0 to 8 bar adjusting range and 20  $\mu$ m filter pore size





#### Operational characteristics

\* no additional letter required

Combined group comprising Manual shut-off valve, Filter, Regulator with built in manometer and Lubricator, assembled with two (Y) type coupling kits for panel mounting and one (X) type coupling kit.

Integrated manometer 0-12 bar as standard

(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

#### Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

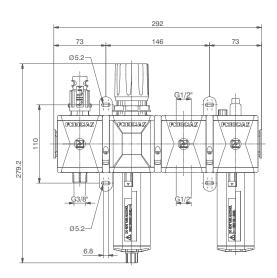
Technical characteristics		
Connections	G 3/8" - G 1/2"	Ordering code
Max. inlet pressure	13 bar	
Working temperature	-5°C +50°C	G <b>Ø</b> 173 <b>00</b> S <b>00</b>
Weight with Technopolymer threads	gr. 1308	VERSION
Weight with threaded inserts	gr. 1388	N = Metal inserts
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar	T = Technopolymer thread  CONNECTIONS  A = G3/8"(only for "N" version)
Filter pore size	5 μm - 20 μm - 50 μm	B = G1/2"
Bowl capacity	68 cm <sup>3</sup>	C = G1/2" NPT(only for "N" version)
Indicative oil drip rate	1 drop every 300/600 NI	TYPE  VK = Built in gauge  VT = G1/8" gauge connection
Oil type	FD22 - HG32	FILTER PORE SIZE
Bowl capacity	136 cm <sup>3</sup>	ADJUSTING RANGE $C = 5 \mu m / 0.8 \text{ bar}$
Assembly positions	Vertical	$D = 5 \mu m / 0-12 bar$
Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm	$G = 20 \mu m / 0.8 \text{ bar}$ $H = 20 \mu m / 0.12 \text{ bar}$ $N = 50 \mu m / 0.8 \text{ bar}$
Max. fitting torque	G3/8" = 25 Nm	$P = 50 \mu\text{m} / 0-12 \text{bar}$
(with threaded inserts)	G1/2" = 30 Nm	OPTIONS = Standard *
Min. operational flow at 6,3 bar	100 NI/min.	A = Min.oil level indicator NO C = Min.oil level indicator NC S = Automatic drain SA = Automatic drain + Min.oil level indicator NO SC = Automatic drain + Min.oil level indicator NC
		FLOW DIRECTION = Standard

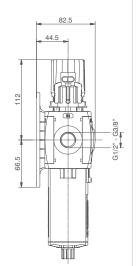
3.179

(from left to right)
W = from right to left

#### Service unit assembled (VL+EM+PA+L) (VL+E+PA+L) (VL+EW+PA+L)

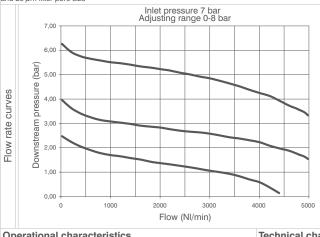


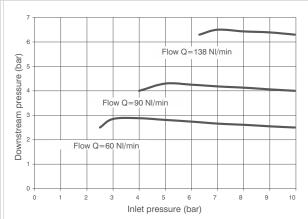




Example: GT173BVNG: size 3 combined group comprising Shut-off valve, Filter-regulator, Air intake and Lubricator Technopolymer threads, G1/2" connections 0 to 8 baradjusting range and 20 µm filter pore size

Adjustment characteristics





Operational	Characteristics	

Combined group comprising manual shut-off valve, Filter - regulator with built in manometer, Air intake and Lubricator, assembled with two (Y) type coupling kits for panel mounting and one (X) type coupling kit.

Integrated manometer 0-12 bar as standard

(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

#### Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics		
Connections	G 3/8" - G 1/2"	T
Max. inlet pressure	13 bar	
Working temperature	-5°C +50°C	
Weight with Technopolymer threads	gr. 1249	
Weight with threaded inserts	gr. 1309	
Pressure range	0-2 bar / 0-4 bar	-
9	0-8 bar / 0-12 bar	0
Filter pore size	5 μm - 20 μm - 50 μm	] `
Bowl capacity	68 cm³	
Indicative oil drip rate	1 drop every	•
	300/600 NI	Ŀ
Oil type	FD22 - HG32	
Bowl capacity	136 cm <sup>3</sup>	
Assembly positions	Vertical	6
Max. fitting torque	G1/2" = 22 Nm	] `
(with Technopolymer threads)	G1/2 - 22 NIII	
Max. fitting torque	G3/8" = 25 Nm	L
(with threaded inserts)	G1/2" = 30 Nm	
Min. operational flow at 6,3 bar	100 NI/min.	0

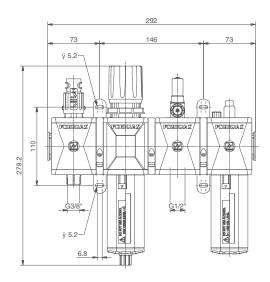
	Ordering code			
		<b>GØ</b> 173 <b>@⊕S⊙D</b>		
		VERSION		
	V	N = Metal inserts		
		T = Technopolymer thread		
		CONNECTIONS		
	0	A = G3/8"(only for "N" version)		
1		B = G1/2"		
		C = G1/2" NPT(only for "N" version)		
		TYPE		
	0	VN = Built in gauge		
		VP = G1/8" gauge connection		
		FILTER PORE SIZE		
	-	ADJUSTING RANGE		
		$C = 5 \mu \text{m} / 0-8 \text{bar}$		
	8	$D = 5 \mu \text{m} / 0 - 12 \text{bar}$		
		$G = 20 \mu m / 0-8 bar$		
		$H = 20 \mu m / 0-12 bar$		
		$N = 50 \mu m / 0.8 bar$		
		P = 50 μm / 0-12 bar		
		OPTIONS		
		= Standard *		
		A = Min.oil level indicator NO		
		C = Min.oil level indicator NC		
	0	S = Automatic drain		
		SA = Automatic drain +		
		Min.oil level indicator NO SC = Automatic drain +		
		Min.oil level indicator NC		
		FLOW DIRECTION		
	0	= Standard		
	-	(from left to right)		
		W = from right to left		

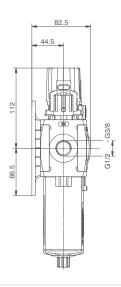
\* no additional letter required



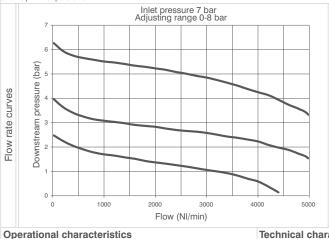
#### Service unit assembled (VL+EM+PP+L) (VL+E+PP+L) (VL+EW+PP+L)

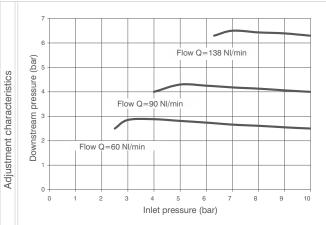






Example: GT173BVRG: size 3 combined group comprising Shut-off valve, Filter-regulator, Pressure switch and Lubricator Technopolymer threads, G1/2" connections adjusting range 0 to 8 bar and 20  $\mu m$  filter pore size





\* no additional letter required

Combined group comprising manual shut-off valve, Filter regulator with built in manometer, Pressure switch and Lubricator, assembled with two (Y) type coupling kits for panel mounting and one (X) type coupling kit. Integrated manometer 0-12 bar as standard

(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

#### Note

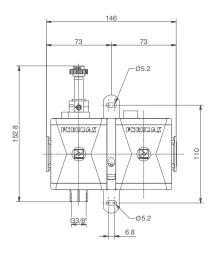
The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

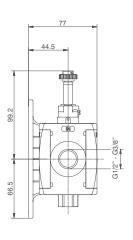
Technical characteristics			
Connections	G 3/8" - G 1/2"		Or
Max. inlet pressure	13 bar		
Working temperature	-5°C +50°C		G♥
Weight with Technopolymer threads	gr. 1333		VERS
Weight with threaded inserts	gr. 1393	V	N = N
Duncas was not no	0-2 bar / 0-4 bar		T = T
Pressure range	0-8 bar / 0-12 bar		A = 0
Filter pore size	5 μm - 20 μm - 50 μm	•	B = 0
Bowl capacity	68 cm <sup>3</sup>	_	C = C
	1 drop every	0	TYPE VR =
Indicative oil drip rate	300/600 NI		VC =
Oil type	FD22 - HG32		FILTE
Bowl capacity	136 cm <sup>3</sup>		ADJU $C = 5$
Assembly positions	Vertical	8	D = 5
Max. fitting torque		0	G = 2
(with Technopolymer threads)	G1/2" = 22 Nm		H = 2 N = 5
Max. fitting torque	G3/8" = 25 Nm		P = 5
(with threaded inserts)	G1/2" = 30 Nm		OPTIO
(Will all sadd in Sorts)	31,2 331111	-	= S
			A = N C = N
		0	S = A
			SA =
			1
Min. operational flow at 6,3 bar	100 NI/min.		SC =
			FLO
			=

	Ordering code				
		G <b>Ø</b> 173 <b>@0</b> 8@			
	W .	VERSION N = Metal inserts			
_		T = Technopolymer thread			
	•	CONNECTIONS A = G3/8"(only for "N" version)			
		B = G1/2" $C = G1/2"  NPT(only for "N" version)$			
	0	TYPE  VR = Built in gauge  VC = G1/8" gauge connection			
	9	FILTER PORE SIZE ADJUSTING RANGE C = 5 \( \mu \nl \text{0.10} \) (0.48 bar D = 5 \( \mu \nl \text{0.10} \) (0.12 bar G = 20 \( \mu \nl \text{0.10} \) (0.10 bar			
		H = $20 \mu m / 0.12 \text{ bar}$ N = $50 \mu m / 0.8 \text{ bar}$ P = $50 \mu m / 0.12 \text{ bar}$			
	•	OPTIONS = Standard * A = Min.oil level indicator NO C = Min.oil level indicator NC S = Automatic drain SA = Automatic drain + Min.oil level indicator NO SC = Automatic drain + Min.oil level indicator NC			
	Ð	FLOW DIRECTION  = Standard (from left to right)  W = from right to left			

#### Service unit assembled (VE+AP)







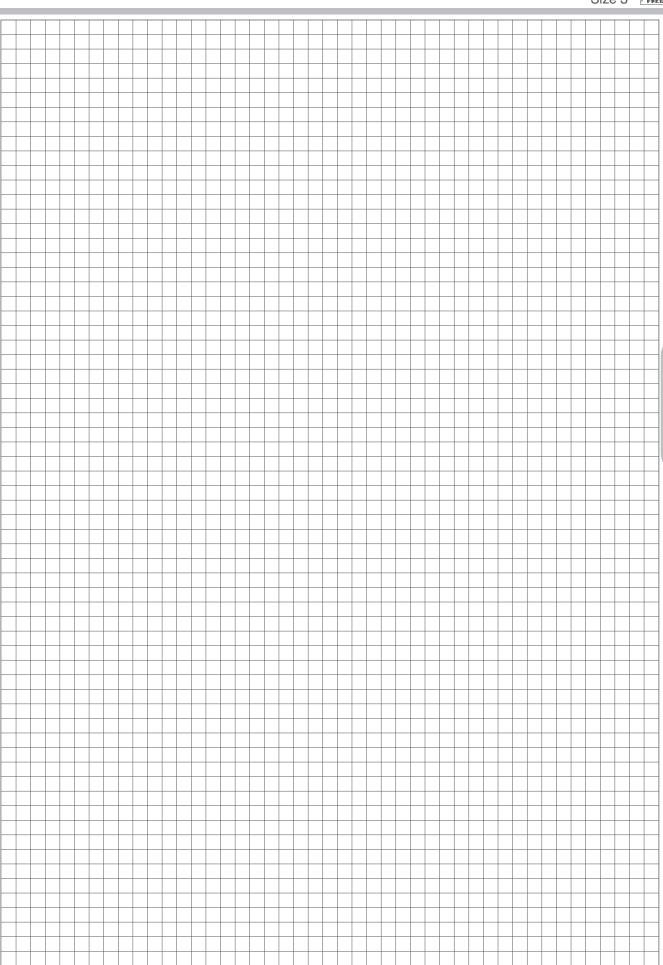
C5 = 24 V DC C6 = 24 V AC (50-60 Hz) C7 = 110 V AC (50-60 Hz) C8 = 230 V AC (50-60 Hz) C9 = 24 V DC (2 Watt)

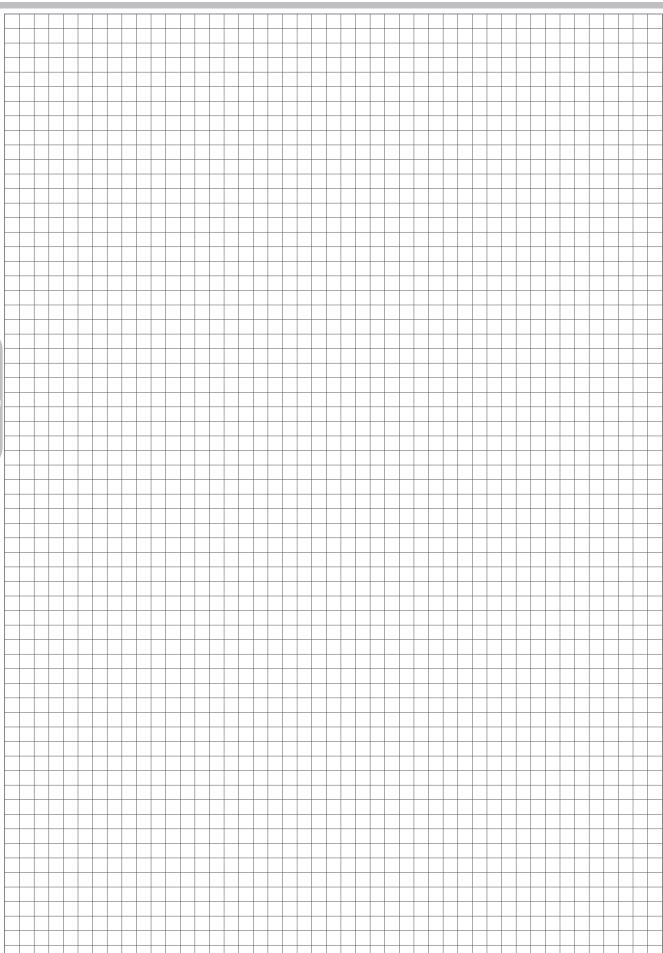
Example: GT173BSB2: size 3 combined group comprising Electric shut-off valve, Progressive start-up valve without coil with M2 pilot Technopolymer threads, G1/2" connections

١	Operational characteristics	Technical characteristics
	Combined group comprising Electric shut - off valve and	Connections
	Progressive start-up valve assembled with a (Y) type coupling kit	Max. inlet pressure
	for panel mounting.	Min. inlet pressure

	Connections	G 3/8" - G 1/2"		Ordering code
it	Max. inlet pressure	10 bar		
	Min. inlet pressure	2.5 bar		<b>GØ173@SØ</b>
	Working temperature	-5°C +50°C		VERSION
	Weight with Technopolymer threads	gr. 549	V	N = Metal inserts
	Weight with threaded inserts	gr. 589		T = Technopolymer thread
	Assembly positions	Indifferent		CONNECTIONS  A = G3/8"(only for "N" version)
	Max. fitting torque		0	B = G1/2"
		G1/2" = 22 Nm		C = G1/2" NPT(only for "N" version)
	(with Technopolymer threads)			15 mm COIL VOLTAGE
	Max. fitting torque	G3/8" = 25 Nm		A4 = 12 V DC
	(with threaded inserts)	G1/2" = 30 Nm		A5 = 24 V DC
	(	0.17= 00.1111		A6 = 24 V AC (50-60 Hz)
				A7 = 110 V AC (50-60 Hz)
				A8 = 220 V AC (50-60 Hz)
				A9 = 24 V DC (1 Watt)
				22 mm COIL VOLTAGE
				B2 = Without coil
				M2 mechanic
			A	B4 = 12 V DC
			•	B5 = 24 V DC
	Flow at 6 bar with ∆p=1	2800 NI/min.		B6 = 24 V AC (50-60 Hz)
				B7 = 110 V AC (50-60 Hz)
				B8 = 220 V AC (50-60 Hz)
				B9 = 24 V DC (2 Watt)
				30 mm COIL VOLTAGE

3







The new "AIRPLUS" range of FRL units represents an evolution of the original 1700 series.

The latest technical features include; Improved performance and reliability as well as quick and easy assembly. The transparent polycarbonate (PC) bowls are fitted with a bowl protection guard which is assembled on the component body via a quick coupling mechanism which also includes a safety release button. The filters are available with 3 grades of filtration ( $5\mu$ m,  $20\mu$ m and  $50\mu$ m) as standard and also include a manual/semi-automatic drain. An automatic drain is also available.

The regulators are based on the rolling diaphragm technology with a low hysteresis and a balanced system. They can be supplied with an integral flush mounted pressure gauge and are available in 4 different pressure ranges from 0 - 12 bar, the adjusting knob can be locked by depressing it into the lock position.

The lubricator has been designed using the venture principle and the amount of oil is regulated via the adjusting screw which is positioned on top of the unit on the polycarbonate (PC) dome which also provides a visual indication of the amount of oil being regulated. The oil suction pipe is fitted with a sintered filter as standard which helps prevent contaminates reaching the downstream circuit.

Two versions of the shut-off valve are available, one manual and one being solenoid operated, in both cases the units are fitted with a threaded connection for exhausting the air from the downstream circuit. On the manual version it's also possible to fit 3 padlocks whilst in the lock position in order to prevent accidental pressurization of the pneumatic system and avoid accidents or damage. The solenoid operated version is available with a 15mm solenoid operator.

The soft start valve provides a controlled progressive build-up of pressure downstream avoiding sudden pressure surges which could be dangerous for components fitted to the downstream circuit, the filling time can be adjusted via the built in flow regulator. The valve opens fully once the downstream pressure reaches 50% of the inlet pressure. The pressure switch module can be set between 2 - 10 bars and the intake module completes the range. All of the components are connected together using the technopolymer flange system which also allows the units to be panel mounted as well as the ability to replace components without having to disassemble the FRL from its position.

#### Instructions for installation and operation

The FRL must be installed as close as possible to the application

The airflow must follow the direction as indicated on the FRL components or correspond with that indicated on the threaded connections (IN and OUT). All components fitted with a bowl must be mounted vertically with the bowl facing downwards. The FRL units can be wall mounted directly through the 8.5mm mounting holes or via the "Y" type quick coupling flange.

All units must be operated in according to the specified pressure and temperature ranges; fittings must be installed without exceeding the maximum torque allowed. The condensate level in both the filter and filter-regulator units must never exceed the maximum level indicated on the bowl. The condensate on the manual/semi-automatic drain unit can be discharged using 6/4mm tube fitted directly to the drain tap. The regulators pressure value must always be set whilst the pressure is rising ensuring the correct regulator and required pressure range have been selected. Lubricators must be filled with either FD22 or HG32 oils and the operator must ensure that the flow rate is above the minimum flow rate required to operate the unit. Below this value the unit does not operate correctly.

The oil quantity dispensed by the lubricator can be regulated by the adjusting the screw on the transparent polycarbonate dome through which the oil flow is visible. A drop of oil every 300 - 600 litres should be allowed and please note: The oil refill can take place only with the lubricator bowl NOT under pressure.

The lubricator can be refilled whilst the pneumatic circuit is pressurized thanks to the built in exhaust valve which allows the bowl to be depressurized and the oil refilled in the bowl.

The manual shut off valve is operated (On) with two actions, firstly push the knob down and secondly turn the knob clockwise. To discharge the downstream air, turn the knob anti-clockwise.

The soft start valve is used to slowly and progressively pressurize the downstream circuit; the time needed is adjustable via the built in flow regulator. Please note: The soft start valve on its own does not allow for the discharge of the downstream circuit, in order to do this it is necessary to combine this unit with a shut off valve (To be mounted upstream)

#### Maintenance



For any maintenance that requires the removal of the top or bottom plug/supports from the main component body it is necessary to remove the side cover plates and retaining screws. If the top or bottom plugs/supports are removed with the retaining screws still in place the unit could be permanently damaged

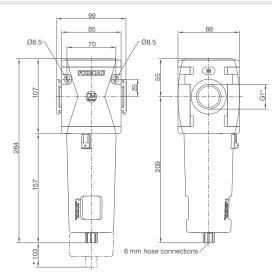


Bowls, plugs and supports are assembled with a bayonet type mechanism. In order to remove them rotate anti-clockwise until you reach a mechanical stop, then remove from the component body (For bowls, firstly press down the green safety button). Please note: Bowls and transparent parts can be cleaned with water and neutral soap. DO NOT USE SOLVENTS OR ALCOHOL

Filter elements (From filters and filter-regulators) made of HDPE can be regenerated by washing and blowing them. In order to remove the filter elements it is necessary to remove the bowl, unscrew the filter element, replace it with a new unit or clean the old one.

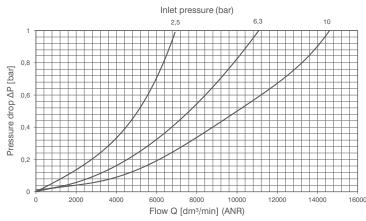
Lubricator oil can be refilled with the circuit pressurized thanks to the exhaust valve which is built and allows the bowl to be depressurized. Once this operation has been carried out it is possible to unscrew and remove the bowl to refill it or refill using the refill plug. Removing the bowl and refilling is preferred.

Should a pressure regulator not perform correctly or should a constant leak be detected form the relieving orifice beneath the adjusting knob it may be necessary to replace the diaphragm. Before attempting to replace the diaphragm unload the regulating spring before removing the regulator support. Due to the complexity of the regulator mechanism and the need to test the unit according to the Pneumax SpA specification any other repair should be carried out by the manufacturer.



\*Bowl removal maximum height

Example : N174BFB : size 4, Filter, G1" connections, 20  $\mu$ m filter pore size



Operational characteristics	Technical characteristics			
Double filtering action: air flow centrifugation and filter element	Connections	G1"		Ordering code
Filtering element made of HDPE (high density polyethylene)	Max. inlet pressure	13 bar		
available in three different filtration grades (5 $\mu$ m, 20 $\mu$ m and	Minimum working pressure	0,5 bar		N174BF <b>©</b> ®
$50\mu$ m) can be regenerated by washing it or replaced.	with automatic drain	0,0 541		FILTER PORE SIZE
Transparent bowl made off polycarbonate with	Maximum working pressure	10 bar	8	$A = 5 \mu m$
bowl protection guard.	with automatic drain	10 bar		$B = 20 \mu m$ $C = 50 \mu m$
Bowl assembly via bayonet type quick coupling	Working temperature	-5°C +50°C		OPTIONS
mechanism with safety button.	Weight	1155 (gr)	0	= Standard *
Semi-automatic drain mounted as standard;	Filter pore size	5μm - 20μm - 50μm		S = Automatic drain
automatic drain upon request.	Bowl capacity	90 cm <sup>3</sup>		
Note	Assembly positions	Vertical		
n order to ensure adequate flow on the auto drain version it is	Wall fixing screw	M8		
recommended to use minimum a 6mm fitting.	Wall lixing sciew	IVI8		

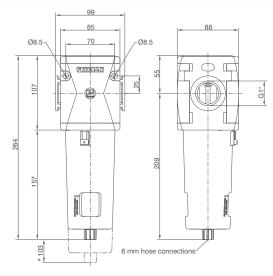
<sup>\*</sup> no additional letter required

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Flow rate curves

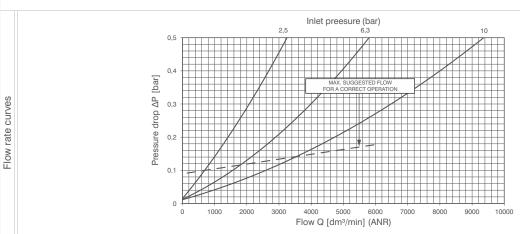
#### Coalescing filter (D)





\*Bowl removal maximum height

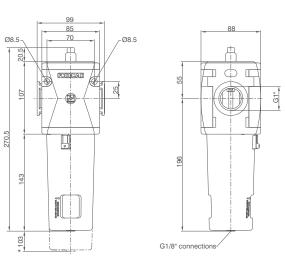
Example: N174BDA: size 4, Coalescing filter, G1" connections, filter efficency 99,97%



Operational characteristics	Technical characteristics		
- Coalescing filter element with filtration grade of 0,01 $\mu$ m	Connections	G1"	Ordering code
- Transparent bowl made off polycarbonate with	Max. inlet pressure	13 bar	
bowl protection guard.	Minimum working pressure	0,5 bar	N174BD <b>⊜</b>
- Bowl assembly via bayonet type quick coupling	with automatic drain	0,0 541	FILTER EFFICIENCY
mechanism with safety button.	Maximum working pressure	40 5	A = 99,97%
- Semi-automatic drain mounted as standard;	with automatic drain	10 bar	OPTIONS  = Standard *
automatic drain upon request.	Working temperature	-5°C +50°C	S = Automatic drain
Note	Weight	1235 (gr)	
In order to ensure a better grade of filtration it is recommended	Filter efficiency	99,97%	
to use a 5 $\mu m$ filter before the coalescing filter. In order to ensu	re with 0,01 $\mu$ m particle	39,37 /6	
adequate flow on the auto drain version it is recommended to	Bowl capacity	90 cm <sup>3</sup>	
use minimum a 6mm fitting.	Assembly positions	Vertical	
	Wall fixing screw	M8	

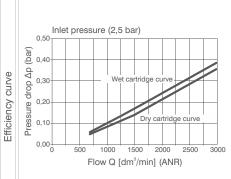
\* no additional letter required

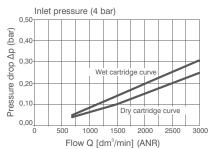


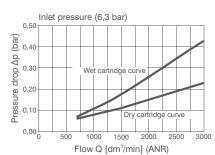


\*Bowl removal maximum height

Example: N174BDAV: size 4, Oil removal filter, with clogging gauge, G1" connections.



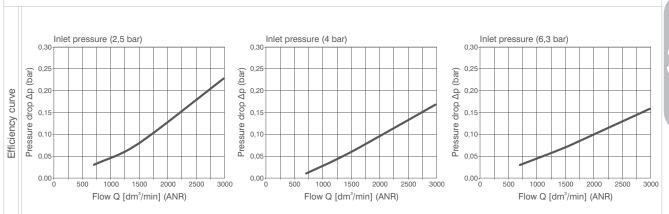




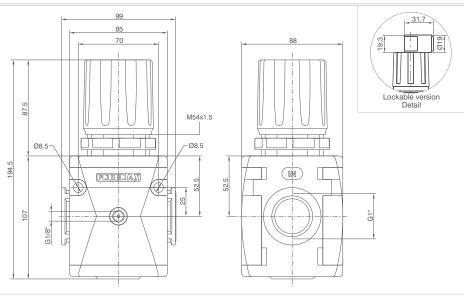
Operational characteristics	Technical characteristics			
- Coalescing filtering cartridge particle removal 0,01 μm	Connections	G1"	Ordering code	
oil residual 0,01 ppm	Nominal flow at 6,3 bar	13 bar		
Clogging gauge	Filter efficiency	3000 NI/min	N174BDAV	
green: proper working	Max. inlet pressure	99,99%		
red: clogged cartridge (Δp 0,5 bar)	Minimum working pressure	0,5 bar		
we recommend to change the cartridge	with automatic drain	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Transparent bowl made off polycarbonate with	Maximum working pressure	40.1		
bowl protection guard.	with automatic drain	10 bar		
Bowl assembly via bayonet type quick coupling	Working temperature	-5°C +50°C		
mechanism with safety button.	Weight	1260 (gr)		
Automatic drain mounted as standard.	Bowl capacity	90 cm <sup>3</sup>		
Note	Assembly positions	Vertical		
t is recommended to use a 5 $\mu$ m filter before the oil removal				
filter. In order to ensure adequate flow on the auto drain versi	on Wall fixing screw	M8		
it is recommended to use minimum a 6mm fitting.				

# Carbon filter (DD) 99 85 70 08.5 6 mm hose connections \*Bowl removal maximum height

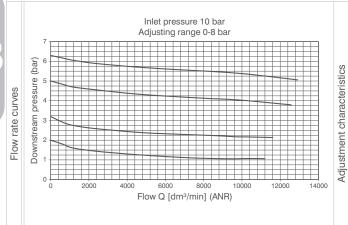
Example: N174BDD: size 4, Carbon filter with Technopolymer threads, G1" connections.

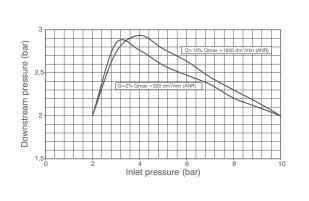


Operational characteristics	Technical characteristics		
- Active carbon cartridge with built in particulate filter.	Connections	G 1"	Ordering code
Used to remove oil vapours, hydrocarbons, odours and	Nominal flow at 6,3 bar	3000 NI/min	
particles coming from the compressed air lines or gasses in	Cartridge life	2000 hours	N174BDD
industrial applications. Oil residue up to <0,003 ppm	Max. inlet pressure	13 bar	
(max imput aereosol 0.01ppm).	Working temperature	-5°C ÷ +50°C	
Innovative filtering technology; high absorption capacity,	Weight	gr. 1260	
with low differential pressure.	Bowl capacity	90 cm <sup>3</sup>	
Transparent bowl made off polycarbonate with	Assembly positions	Vertical	
bowl protection guard.			
Bowl assembly via bayonet type quick coupling			
mechanism with safety button.			
Semi-automatic drain mounted as standard.			
Note	Wall fixing screw	M8	
A 5 micron filter followed by a coalescing filter must be	wall lixing sciew	IVI8	
nstalled before the Oil removal filter in order to ensure the			
correct functionality of the unit and to safeguard the life of the			
active carbon cartridge. It is also necessary to preventively			
replace the cartridges at fixed intervals.			



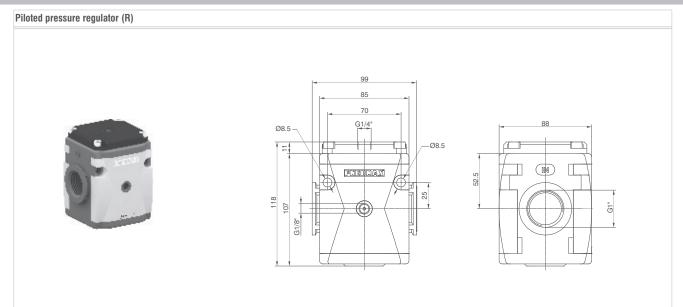
Example: N174BRC : size 4, Regulator, G1" connections, 0 to 8 bar adjusting range



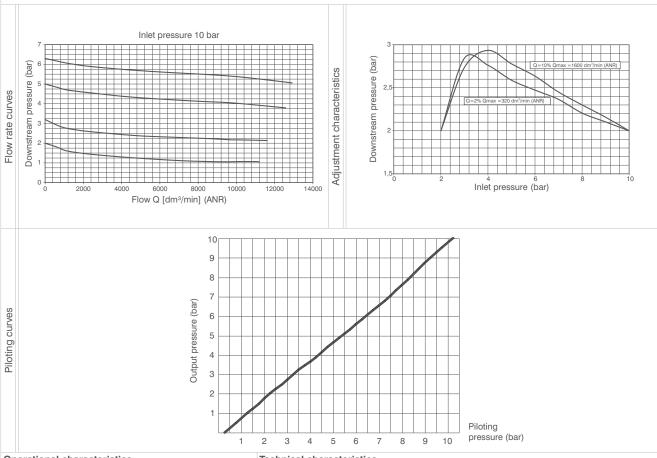


Operational characteristics	Technical characteristics				
Diaphragm pressure regulator with relieving.	Connections	G1"		Ordering code	
- Low hysteresis rolling diaphragm.	Max. inlet pressure	13 bar	0		
Balanced system.	Working temperature	-5°C +50°C		N174BR <b>@⊕⊚</b>	
Available in four pressure ranges up to 12 bar.	Pressure gauge connections	G 1/8"		ADJUSTING RANGE	
Operating knob can be locked in position by pressing it	Weight	1225 (gr)		A = 0-2 bar	
down once the desired P2 (regulated pressure)	Pressure range	0-2 bar / 0-4 bar	_	B = 0-4 bar C = 0-8 bar	
pressure value is achieved.	Fressure range	0-8 bar / 0-12 bar	-	D = 0-12 bar	
Fitted with panel mounting locking ring.	Assembly positions	Indifferent		TYPE	
Note			•	= Standard* L = no relieving	
The pressure must be always regulating while increasing. For			- I	R = Improved relieving	
a more precise regulation and higher sensibility, the use of a	Wall fixing screw	M8		OPTIONS	
regulator with a pressure range as close as possible to the			•	= Standard*	
regulated pressure is recommended.				K = Lockable version	

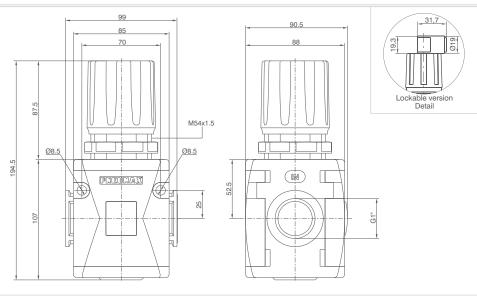
<sup>\*</sup> no additional letter required



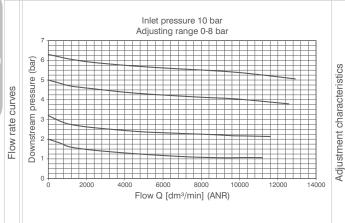
Example: N174BRP : size 4, Piloted pressure regulator with G1" connection

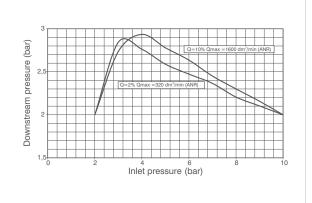


Operational characteristics	Technical characteristics		
- Piston pressure regulator with relieving	Connections	G1"	Ordering code
Balanced system	Pilot port size	G1/4"	
Note	Max. inlet pressure	13 bar	N174BRP
Always regulate the rising pressure.	Working temperature	-5°C +50°C	
	Pressure gauge connections	G 1/8"	
	Weight	1155 (gr)	
	Assembly positions	Indifferent	
	Wall fixing screw	M8	



Example: N174BRMC: size 4, Regulator including gauge, G1" connections, 0 to 8 bar adjusting range





#### Operational characteristics

- Diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Integrated manometer 0-12 bar as standard

(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

#### Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

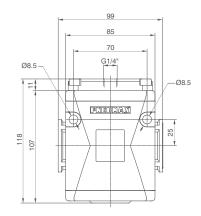
Technical characteristics			
Connections	G1"		Ordering code
Max. inlet pressure	13 bar		
Working temperature	-5°C +50°C		N174BR <b>@@@</b>
Weight	1220 (gr)		FLOW DIRECTION
	0-2 bar / 0-4 bar	0	M = from left to right
Pressure range			W = from right to left
	0-8 bar / 0-12 bar	_	ADJUSTING RANGE
Assembly positions	Indifferent		A = 0-2 bar
		e	B = 0-4 bar
			C = 0-8 bar
			D = 0-12 bar
)			TYPE
		0	= Standard *
Wall fixing screw	M8	U	L = no relieving
			R = Improved relieving
		•	OPTIONS
			= Standard *
			K = Lockable version

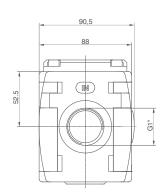
<sup>\*</sup> no additional letter required

Piloting curves

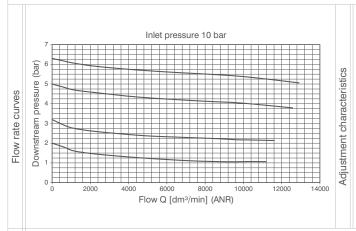


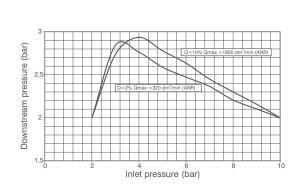


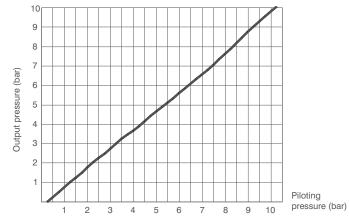




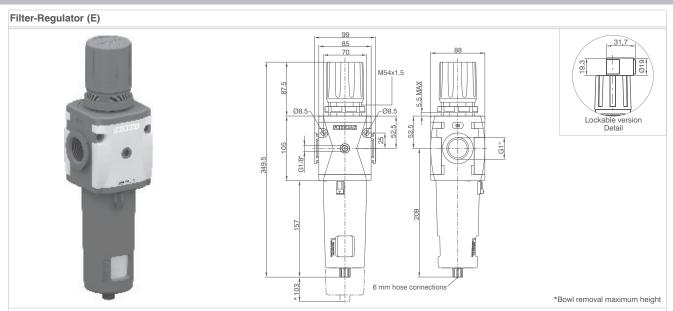
Example: N174BRMP : size 4, Piloted pressure regulator with integrated manometer with G1" connection



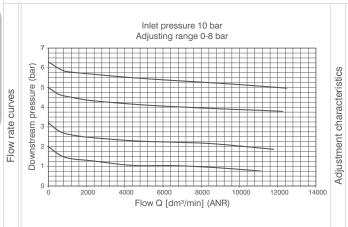


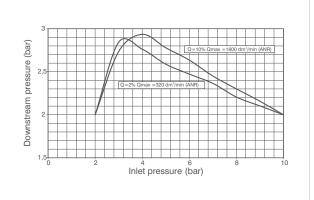


Operational characteristics	Technical characteristics		
Piston pressure regulator with relieving	Connections	G1"	Ordering code
Balanced system	Pilot port size	G1/4"	N174BR <b>©</b> P
Built in gauge 0-12 bar range as standard.	Max. inlet pressure	oressure 13 bar	
Note	Working temperature	-5°C +50°C	FLOW DIRECTION
Always regulate the rising pressure.	Pressure gauge connections	G 1/8"	M = from left to right
	Weight	1150 (gr)	W = from right to left
	Assembly positions	Indifferent	
	Wall fixing screw	M8	



Example : N174BEBC : size 4, Filter-regulator, G1" connections, 20  $\mu$ m filtering pore size, 0 to 8 bar adjusting range





#### Operational characteristics

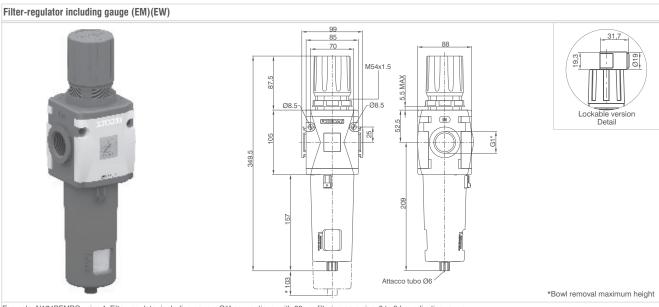
- Filter diaphragm pressure regulator with relieving
- Low hysteresis rolling diaphragm.
- Balanced system.
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5μm, 20μm and 50μm) can be regenerated by washing it or replaced.
- Transparent bowl made off polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard; automatic drain upon request.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved
- Fitted with panel mounting locking ring.

#### Note

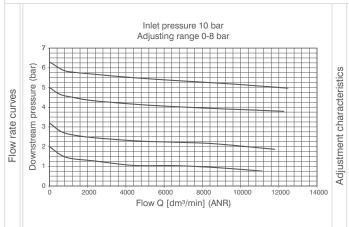
The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

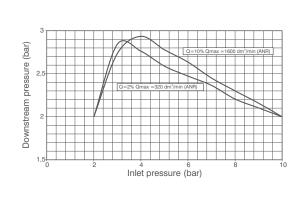
Technical	characteristics	

Connections	G1"		Ordering code
Max. inlet pressure	13 bar		
Minimum working pressure	0,5 bar		N174BE <b>SGG</b>
with automatic drain	0,5 Dai		FILTER PORE SIZE
Maximum working pressure		8	$A = 5 \mu m$
with automatic drain	10 bar		$B = 20 \mu m$
	-5°C +50°C	-	$C = 50 \mu\text{m}$
Working temperature		-	ADJUSTING RANGE A = 0-2 bar
Pressure gauge connections	G 1/8"	e	B = 0-4 bar
Weight	1450 (gr)		C = 0-8 bar
Bushama	0-2 bar / 0-4 bar		D = 0-12 bar
Pressure range	0-8 bar / 0-12 bar		TYPE
Filter pore size	5 μm - 20 μm - 50 μm	•	= Standard *
'	90 cm <sup>3</sup>	-	S = Automatic drain
Bowl capacity		0	OPTIONS
Assembly positions	Vertical		= Standard * K = Lockable version
		<u>.</u>	
Wall fixing screw	M8	*	no additional letter required



 $\textbf{Example: N174BEMBC: size 4, Filter-regulator including gauge, G1" connections, with 20 \ \mu m filtering pore size, 0 to 8 bar adjusting range}$ 





#### Operational characteristics

- Filter diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5μm, 20μm and 50μm) can be regenerated by washing it or replaced.
- Transparent bowl made of polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard; automatic drain upon request.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

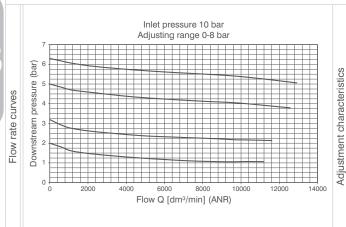
#### Note

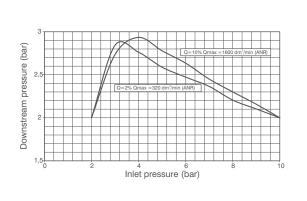
The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

Technical	characteristics

Connections	G1"		Ordering code
Max. inlet pressure	13 bar		oracinig coac
Minimum working pressure	0,5 bar		N174BE <b>09600</b>
with automatic drain			FLOW DIRECTION
Maximum working pressure		0	M = from left to right
with automatic drain	10 bar		W = from right to left
	500 . 5000		FILTER PORE SIZE
Working temperature	-5°C +50°C	8	$A = 5 \mu m$
Weight	1440 (gr)		B = 20 μm
Dunner was an	0-2 bar / 0-4 bar		C = 50 μm ADJUSTING RANGE
Pressure range	0-8 bar / 0-12 bar		A = 0-2  bar
Filter pore size	5 μm - 20 μm - 50 μm	<b>e</b>	B = 0-4 bar
Bowl capacity	90 cm <sup>3</sup>	1	C = 0-8 bar
			D = 0-12 bar
Assembly positions	Vertical		TYPE
		<b>①</b>	= Standard *
			S = Automatic drain
			OPTIONS
			= Standard *
			K = Lockable version
Wall fixing screw	M8	*	no additional letter required
wall lixing solew	IVIO		

Example: N174BRPCA: size 4, Regulator, G1" connections, 0 to 8 bar adjusting range, with pressure switch with M8 connector PNP





G1"

#### Operational characteristics

- Diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Pressure switch as standard

#### Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Max. inlet pressure	13 bar
Working temperature	0°C +50°C
Weight	1260 (gr)
Pressure range	0-2 bar / 0-4 bar
1 1000di 0 faligo	0-8 bar / 0-12 bar
Assembly positions	Indifferent

**Technical characteristics** 

Connections

Assembly positions	Indifferent
Wall fixing screw	M8

	N174BR <b>@@@@</b>
D	FLOW DIRECTION
	P = from left to right
	Z = from right to left
9	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar

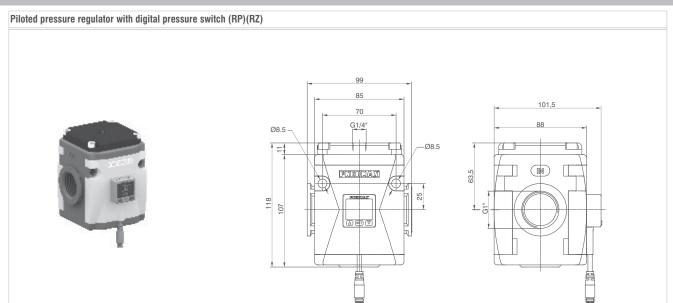
Ordering code

	D = 0-12 bar
	TYPE
0	= Standard *
v	L = no relieving
	R = Improved relieving
	OPTIONS
<b>()</b>	= Standard *
	K = Lockable version
	PRESSURE SWITCH OPTION

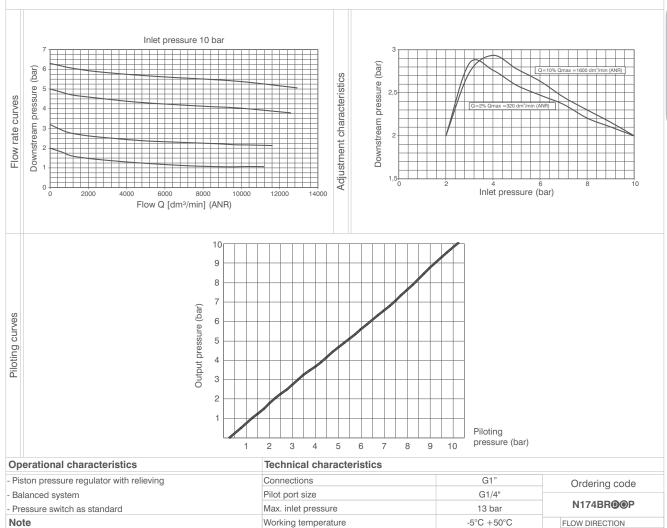
A = Cable 150 mm+M8 PNP B = Cable 150 mm+M8 NPN C = Cable 2 mt. PNP

D = Cable 2 mt. NPN \* no additional letter required

Always regulate the rising pressure.



Example: N174BRPAP: size 4, Piloted pressure regulator, G1" connections, with pressure switch with M8 connector PNP



P = from left to right

Z = from right to left

C = Cable 2 mt. PNP D = Cable 2 mt. NPN

PRESSURE SWITCH OPTION

A = Cable 150 mm+M8 PNP B = Cable 150 mm+M8 NPN

G 1/8"

1190 (gr)

Indifferent

M8

Pressure gauge connections

Assembly positions

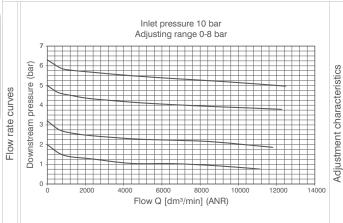
Wall fixing screw

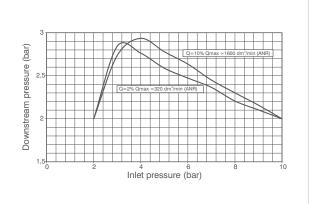
Weight

\*Bowl removal maximum height

# Filter regulator with pressure switch (EP)(EZ)

Example: N174BEPBCA: size 4, Filter-regulator, G1" connections, 20  $\mu$ m filtering pore size, 0 to 8 bar adjusting range, with pressure switch with M8 connector PNP





Operational characteristics	Technical characteristics			
Filter - diaphragm pressure regulator with relieving.	Connections	G1" Ordering co		Ordering code
- Low hysteresis rolling diaphragm.	Max. inlet pressure	13 bar		
- Balanced system.	Minimum working pressure	0.5 bor		
Double filtering action: air flow centrifugation and filter element.	with automatic drain	0,5 bai		FLOW DIRECTION
Filtering element made of HDPE (high density polyethylene)	Maximum working pressure		0	P = from left to right
available in three different filtration grades (5µm, 20µm and	with automatic drain	10 bar		Z = from right to left
50µm) can be regenerated by washing it or replaced.	Working temperature	0°C +50°C		FILTER PORE SIZE A = 5 μm
Transparent bowl made of polycarbonate with	Weight	1490 (gr)	8	$B = 20 \mu\text{m}$
	vveignit	0-2 bar / 0-4 bar		$C = 50 \mu\text{m}$
bowl protection guard.	Pressure range			ADJUSTING RANGE
Bowl assembly via bayonet type quick coupling mechanism		0-8 bar / 0-12 bar		A = 0-2 bar
with safety button.	Filter pore size	5 μm - 20 μm - 50 μm	e	B = 0-4 bar
Semi-automatic drain mounted as standard;	Bowl capacity	90 cm <sup>3</sup>		C = 0-8 bar D = 0-12 bar
automatic drain upon request.	Assembly positions	Vertical		TYPE
Available in four pressure ranges up to 12 bar.	Wall fixing screw		•	= Standard *
Operating knob can be locked in position by pressing				S = Automatic drain
it down once the desired P2 (regulated pressure) pressure			•	OPTIONS
value is achieved.				= Standard * K = Lockable version
			P	PRESSURE SWITCH OPTIO
Fitted with panel mounting locking ring.				A = Cable 150 mm+M8 PNI
Pressure switch as standard				B = Cable 150 mm+M8 NPI
Note		M8		C = Cable 2 mt. PNP
The pressure must be always regulating while increasing. For				D = Cable 2 mt. NPN
a more precise regulation and higher sensibility, the use of a			*	no additional letter required
regulator with a pressure range as close as possible to the				
regulated pressure is recommended. In order to ensure				
adequate flow on the auto drain version it is recommended to				

use minimum a 6mm fitting.

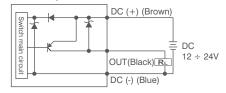


#### **CHARACTERISTICS**

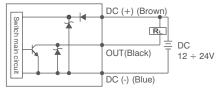
- 3 color digital LCD display, easy readout
- 4 units of measurement for pressure indication
- PNP and NPN output
- N.O. and N.C. output contact
- Not available individually, but only with a Regulator or a Filter-regulator

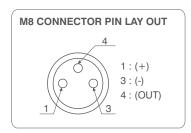
#### **OUTPUT CIRCUIT WIRING DIAGRAMS**

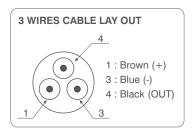
#### **PNP** output



#### **NPN** output





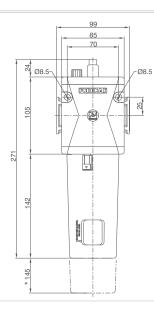


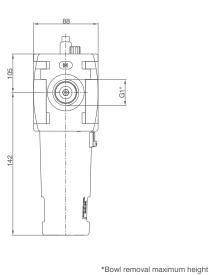
#### Cable ordering code

MCH1cable 3 wires I=2,5m with M8 connectorMCH2cable 3 wires I=5m with M8 connectorMCH3cable 3 wires I=10m with M8 connector



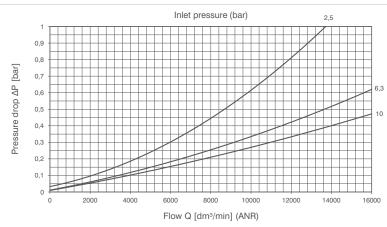
	TECHNICAL CHARACTERISTICS
Adjusting range	0 - 10 bar / 0 - 1MPa
Max. inlet pressure	15 bar / 1,5 MPa
Fluid	Filtered and dehumidified air
Display unit of measurement	MPa - kgf/cm² - bar - psi
Supply voltage	12 - 24 VDC
Current consumption	≤40mA (without load)
Digital output type	NPN - PNP
Type of contact	Normally Open - Normally Closed
Max. load current	125 mA
Digital output activation mode	single threshold with fixed hysteresis - window with fixed hysteresis - window without hysteresis
Digital output activation time	0.05s - 0.25s - 0.5s - 1s - 2s - 3s (selections for chattering-proof function)
Display characteristics	Double 3 1/2 digit display Digital output status indication Three-pushbuttons touchpad
Indicator accuracy	≤±2% F.S. ± 1 digit
Protection grade	IP 40
Temperature	0 - 50 °C
Cable section	3 x 0,129mm², Ø4 mm, PVC





Example: N174BL: size 4, Lubricator, G1" connections





#### **Operational characteristics**

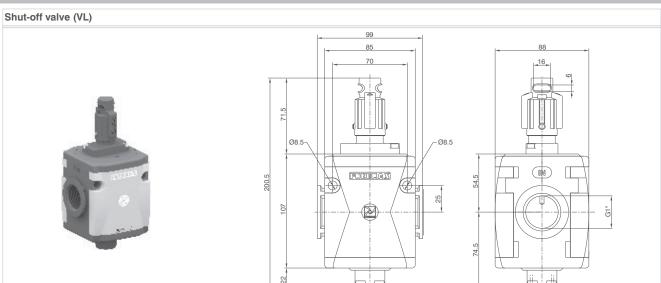
- Oil mist lubrication with variable orifice size in function of the flow rate
- Oil quantity regulation mechanism and oil quantity visualization dome made of polycarbonate.
- Transparent bowl made off polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Oil filling plug
- Oil can be refilled with pressurized circuit.
- Available with electric min-level sensor N.O. or N.C. with connection for connector.
- For electrical connection use connectors type

C1-C2-C3 (see sensors chapter in the catalogue).

Install as close as possible to the point o fuse Do not use alcohol, deterging oils or solvents.

	Technical characteristics					
	Connections	G1"		Ordering code		
	Max. inlet pressure	13 bar		N174BL <b>⊚</b>		
	Working temperature	-5°C +50°C				
	Weight 1025 (gr)			OPTIONS		
	Indicative oil drip rate	300/600 NI e FD22 - HG32		A = Min. Oil level indicator Normally open		
	Oil type			C = Min. Oil level indicator Normally closed		
	Bowl capacity					
	Assembly positions	Vertical				
Min. operational flow at 6,3 bar		100 dm <sup>3</sup> /min. (ANR)				
	Wall fixing screw	M8				





Example: N174BVL : size 4, Shut-off valve, G1" connections

Operational characteristics	Technical characteristics		
Manual operated 3 ways poppet valve.	Connections	G1"	Ordering code
Double handle action for valve opening: pushing and	Max. inlet pressure	10 bar	
rotating (clockwise).	Working temperature	-5°C +50°C	N174BVL
The valve can be closed and the down stream circuit	Weight	1100 (gr)	
depressurized by rotating anticlockwise the knob.	Assembly positions	Indifferent	
Knob lockable with three padlocks.	Handle opening and closing angle	90°	
	Nominal flow rate at 6 bar	15000 dm³/min. (ANR)	
	with $\Delta p=1$ (from 1 to 2)	13000 dill/lilli. (Alvit)	
	Exhaust nominal flow rate	3600 dm³/min. (ANR)	
	at 6 bar with $\Delta p=1$ (from 2 to 3)	3000 dili /Ililii. (ANA)	
	Nominal flow rate with free exhaust	5000 dm³/min. (ANR)	
	at 6 bar (from 2 to 3)	ar (from 2 to 3)	
	Wall fixing screw	M8	

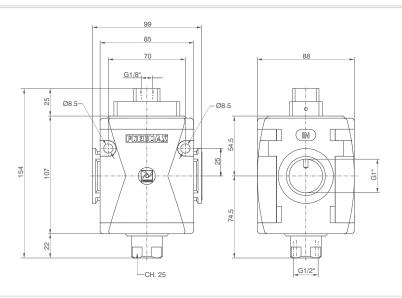
CH. 25

Ordering code

N174BVP

# Pneumatic shut-off valve (VP)





Example: N174BVP: size 4, Pneumatic shut-off valve with Technopolymer threads, G1" connections

# **Operational characteristics**

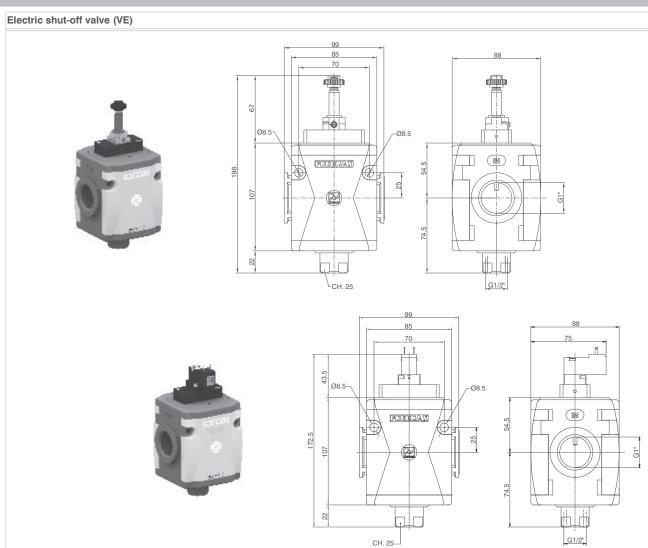
## Pneumatic operated 3 ways poppet valve.

When the pneumatic signal is removed the valves exhaust the pneumatic circuit

### G1" Connections Discharge connection G1/2" Pilot port size G1/8" Working temperature -5°C +50°C Weight gr. 1.133 Assembly positions Indifferent Min. pressure working 2,5 bar Max. pressure working 10 bar Nominal flow rate at 6 bar 15000 dm<sup>3</sup>/min. (ANR) with $\Delta p = 1$ (from 1 to 2) Exhaust nominal flow rate at 6 bar 3600 dm³/min. (ANR) with $\Delta p = 1$ (from 2 to 3) Nominal flow rate with free exhaust 5000 dm<sup>3</sup>/min. (ANR) at 6 bar (from 2 to 3) Wall fixing screw M8

**Technical characteristics** 

3.202



Example: N174BVEB2: size 4, Electric shut-off valve, with M2 Pilot without coil, G1" connections

Operational characteristics	Technical characteristics				
Solenoid operated 3 ways poppet valve.	Supply and operating connections	G1"		Ordering code	
- The model fitted with 15 mm pilots uses pilots series	Discharge connections	G 1/2"		3	
N33_0A and N33_0E (1 Watt)	Working temperature	-5°C +50°C		N174BVE	
	Weight	1170 (gr)		15 mm COIL VOLTAGE	
	Assembly positions	Indifferent		A4 = 12 V DC	
	Min. Pressure working	2,5 bar		A5 = 24 V DC A6 = 24 V AC (50-60 Hz)	
	Max. Pressure working	10 bar		A7 = 110 V AC (50-60 Hz)	
	Nominal flow rate at 6 bar	45000 1 3/ 1 (415)		A8 = 220 V AC (50-60 Hz)	
	with $\Delta p=1$ (from 1 to 2)		A9 = 24 V DC (1 Watt)		
	Exhaust nominal flow rate			22 mm COIL VOLTAGE B2 = Wthout coil	
	at 6 bar with $\Delta p=1$ (from 2 to 3)	3600 dm³/min. (ANR)	<b>A</b>	M2 mechanic	
	Nominal flow rate with free exhaust			B4 = 12 V DC	
	at 6 bar (from 2 to 3)	5000 dm³/min. (ANR)		B5 = 24 V DC B6 = 24 V AC (50-60 Hz)	
	at o bar (nom 2 to o)		-	B7 = 110 V AC (50-60 Hz)	
				B8 = 220 V AC (50-60 Hz)	
				B9 = 24 V DC (2 Watt)	
				30 mm COIL VOLTAGE	
	Wall fixing screw	M8		C5 = 24 V DC	
				C6 = 24 V AC (50-60 Hz) C7 = 110 V AC (50-60 Hz)	
				C8 = 230 V AC (50-60 Hz)	
				C9 = 24 V DC (2 Watt)	

Ordering code

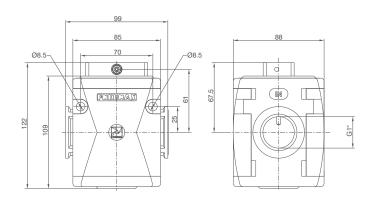
N174BAP®

FLOW DIRECTION
= from left to right
W = from right to left



# Progressive start-up valve (AP)





Example: N174BAP: size 4, Progressive start-up valve, G1" connections

# Operational characteristics

- Down stream circuit filling time regulated via a built in flow regulator.
- Full pressure is allowed once the down stream circuit pressure reaches 50% of the inlet pressure.

Technical characteristics	
Connections	G1"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight	1100 (gr)
Assembly positions	Indifferent
Min. pressure working	2.5 (bar)

Weight 1100 (gr)

Assembly positions Indifferent

Min. pressure working 2,5 (bar)

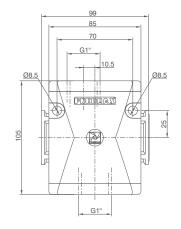
Nominal flow rate at 6 bar with  $\Delta p$ =1

Fully open built in flow regulator flow rate

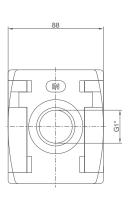
ttor flow rate

Air intake (PA)





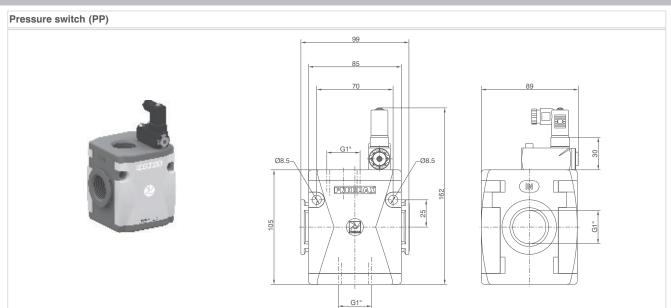
Wall fixing screw



M8

Example: N174BPA: size 4, Air intake, G1" connections

Operational characteristics	Technical characteristics		
Available with two G1" threaded connections.	Connections	G1"	Ordering code
	Max. inlet pressure	13 bar	
	Working temperature	-5°C +50°C	N174BPA
	Weight	720 (gr)	
	Assembly positions	Indifferent	
	Wall fixing screw	M8	



Example: N174BPP : Size 4, Pressure switch, G1" connections

# Operational characteristics

- Built in adjustable pressure switch (2 to 10 bar) with electrical connection.
- Available with two G1" threaded connections.
- The electrical connection is made by mean of a 15 mm connector DIN 43650 type C. The microswitch contact could be normally closed or open (change overswitch).

# **Technical characteristics**

Connections	G1"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight	800 (gr)
Microswitch capacity	1A
Grade of protection	IP 65
(with connector assembled)	00
Adjusting range	2 -10 bar
Assembly positions	Indifferent
Microswitch maximum tension	250 VAC
Wall fixing screw	M8

Ordering code
N174BPP®

FLOW DIRECTION
= from left to right
W = from right to left

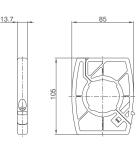


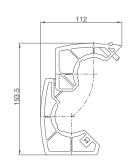
# Flange X

# Ordering code

T174X







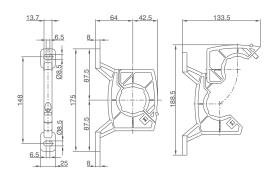
Weight 90 gr. Example: T174X: Size 4 coupling flange - Enables the quick connnection of two functions.

# Flange Y

# Ordering code

T174Y





Weight 120 gr.
Example: T174Y: Size 4 coupling flange with mounting holes
- Used to couple together two elements and
to panel mount them.
- Used to panel mount one single element.

# Pressure gauge

# Ordering code

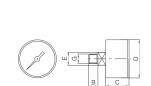
# 17070♥.❸

	VERSION
V	A = Dial Ø40
	B = Dial Ø50
	SCALE
	A = Scale 0-4 bar

B = Scale 0-4 bar C = Scale 0-12 bar



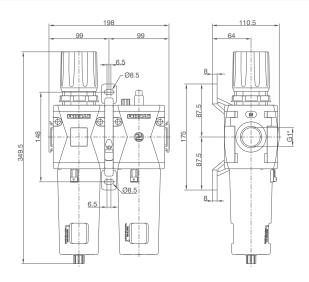




DIMENSIONS								
CODE	Α	В	С	D	Е	G	Weight gr.	
17070A	44	10	26	41	14	1/8"	60	
17070B	45	10	27	49	14	1/8"	80	

# Service unit assembled (EM+L) (E+L) (EW+L)





Example: GN174BHG: size 4, combined group comprising Filter-regulator and Lubricator, G1" connections, 0 to 8 bar adjusting range and 20  $\mu$ m filter pore size

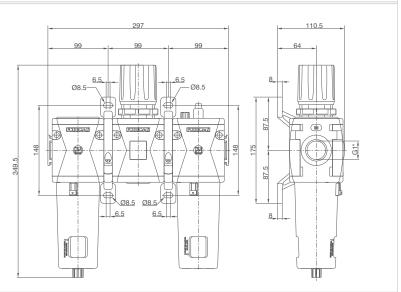
Operational characteristics	Technical characteristics			
Combined group comprising Filter-regulator with built in	Connections	G1"		Ordering code
manometer and Lubricator assembled with a (Y) type	Max. inlet pressure	13 bar		
coupling kit for panel mounting.	Working temperature	-5°C +50°C		GN174B <b>@©@</b>
Integrated manometer 0-12 bar as standard	Weight	2585 (gr)		TYPE
(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)	December works	0-2 bar / 0-4 bar	0	H = Built in gauge
Note	Pressure range	0-8 bar / 0-12 bar		J = G1/8" gauge connection
The pressure must be always regulating while increasing. For	Filter pore size	5 μm - 20 μm - 50 μm		ADJUSTING RANGE
a more precise regulation and higher sensibility, the use of a	Bowl capacity	90 cm <sup>3</sup>		$C = 5 \mu m / 0-8 bar$
regulator with a pressure range as close as possible to the	. ,	1 drop every	8	D = 5 μm / 0-12 bar
	Indicative oil drip rate	. ,		$G = 20 \mu \text{m} / 0-8 \text{bar}$
regulated pressure is recommended.		300/600 NI		$H = 20 \mu m / 0-12 bar$
	Oil type	FD22 - HG32		$N = 50 \mu m / 0-8 bar$
	Bowl capacity	360 cm <sup>3</sup>	_	$P = 50 \mu\text{m} / 0\text{-}12 \text{bar}$ $OPTIONS$
	Assembly positions	Vertical		= Standard *
	Min. operational flow rate at 6,3 bar	100 dm³/min. (ANR)		A = Min.oil level indicator NO
		, , ,		C = Min.oil level indicator NC
			0	S = Automatic drain
				SA = Automatic drain +
				Min.oil level indicator NO
	Well fried a server	140		SC = Automatic drain +
	Wall fixing screw	M8		Min.oil level indicator NC
				FLOW DIRECTION
			O	= Standard *
			•	(from left to right)
				W = from right to left

<sup>\*</sup> no additional letter required



# Service unit assembled (F+RM+L) (F+R+L) (F+RW+L)



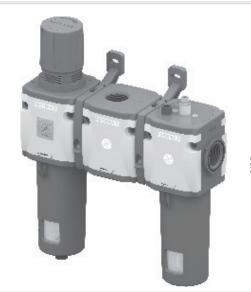


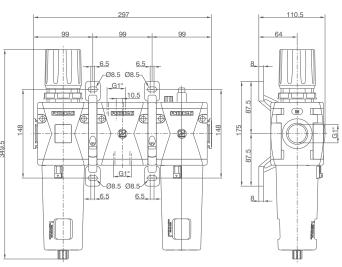
Example: GN174BKG: size 4 combined group comprising Filter, Regulator and Lubricator, G1" connections, 0 to 8 bar adjusting range and 20 µm filter pore size

### **Operational characteristics Technical characteristics** Combined group comprising Filter, Regulator with built in Connections G1" Ordering code manometer and Lubricator assembled with two (Y) type Max. inlet pressure 13 bar GN174B**@@@** coupling kits for panel mounting. Working temperature -5°C +50°C Integrated manometer 0-12 bar as standard Weight 3640 (gr) K = Built in gauge (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range) 0-2 bar / 0-4 bar Pressure range T = G1/8" gauge connection 0-8 bar / 0-12 bar FILTER PORE SIZE The pressure must be always regulating while increasing. For Filter pore size 5 μm - 20 μm - 50 μm ADJUSTING RANGE a more precise regulation and higher sensibility, the use of a Bowl capacity 90 cm<sup>3</sup> $C = 5 \, \mu \text{m} / 0 - 8 \, \text{bar}$ $D = 5 \mu m / 0.12 bar$ 8 regulator with a pressure range as close as possible to the 1 drop every $G = 20 \,\mu m / 0-8 \,bar$ Indicative oil drip rate regulated pressure is recommended. 300/600 NI $H = 20 \, \mu m / 0 - 12 \, bar$ $N = 50 \mu m / 0-8 bar$ $P = 50 \mu m / 0-12 bar$ Oil type FD22 - HG32 Bowl capacity 360 cm<sup>3</sup> OPTIONS Assembly positions Vertical = Standard \* A = Min.oil level indicator NO Min. operational flow rate at 6,3 bar 100 dm<sup>3</sup>/min. (ANR) C = Min.oil level indicator NC S = Automatic drain SA = Automatic drain + Min.oil level indicator NO SC = Automatic drain + Wall fixing screw M8 Min.oil level indicator NC FLOW DIRECTION = Standard \* (from left to right) W = from right to left

<sup>\*</sup> no additional letter required

# Service unit assembled (EM+PA+L) (E+PA+L) (EW+PA+L)



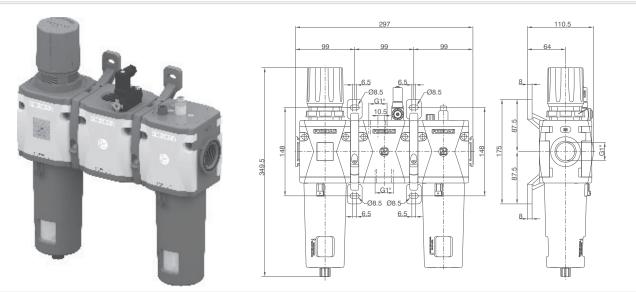


Example: GN174BNG: size 4 combined group comprising Filter-regulator, Air intake and Lubricator, G1" connections, 0 to 8 bar adjusting range and 20 µm filter pore size

Operational characteristics	Technical characteristics			
Combined group comprising Filter-regulator with built in	Connections	G1"		Ordering code
manometer, Air intake and Lubricator assembled	Max. inlet pressure	13 bar		
with two (Y) type coupling kits for panel mounting.	Working temperature	-5°C +50°C		GN174B <b>@©@</b>
Integrated manometer 0-12 bar as standard	Weight	3425 (gr)		TYPE
(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)	Drocoure ronge	0-2 bar / 0-4 bar	0	N = Built in gauge
Note	Pressure range	0-8 bar / 0-12 bar		P = G1/8" gauge connection FILTER PORE SIZE
The pressure must be always regulating while increasing. For	Filter pore size	5 μm - 20 μm - 50 μm		ADJUSTING RANGE
a more precise regulation and higher sensibility, the use of a	Bowl capacity	90 cm <sup>3</sup>		$C = 5 \mu m / 0-8 bar$
regulator with a pressure range as close as possible to the	, ,	1 drop every	8	$D = 5 \mu m / 0-12 bar$
regulated pressure is recommended.	Indicative oil drip rate	300/600 NI		$G = 20 \mu\text{m} / 0.8 \text{bar}$ $H = 20 \mu\text{m} / 0.12 \text{bar}$
regulated pressure is recommended.	Oil type	FD22 - HG32		$N = 50 \mu\text{m} / 0.8 \text{bar}$
	71	360 cm <sup>3</sup>		$P = 50 \mu m / 0-12 bar$
	Bowl capacity			OPTIONS
	Assembly positions	Vertical		= Standard *
	Min. operational flow rate at 6,3 bar	100 dm <sup>3</sup> /min. (ANR)		A = Min.oil level indicator NO
				C = Min.oil level indicator NC
			0	S = Automatic drain
				SA = Automatic drain +
				Min.oil level indicator NO SC = Automatic drain +
	Wall fixing screw	M8		Min.oil level indicator NC
		-		FLOW DIRECTION
				= Standard *
			0	(from left to right)
				W = from right to left

<sup>\*</sup> no additional letter required

# Service unit assembled (EM+PP+L) (E+PP+L) (EW+PP+L)



Example: GN174BRG: size 4 combined group comprising Filter-Regulator, Pressure switch and Lubricator, G1" connections 0 to 8 bar adjusting range and 20 µm filter pore size

# Operational characteristics

# Combined group comprising Filter-regulator with built in manometer, Pressure switch and Lubricator assembled with two (Y) type coupling kits for panel mountings. Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

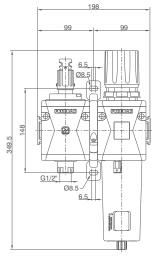
# Technical characteristics

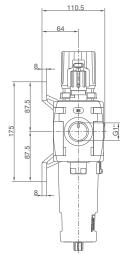
Connections	G1"	Ordering code
Max. inlet pressure	13 bar	
Working temperature	-5°C +50°C	GN174B <b>@©@</b>
Weight	3505 (gr)	TYPE
Pressure range	0-2 bar / 0-4 bar	R = Built in gauge
Tressure range	0-8 bar / 0-12 bar	C = G1/8" gauge connection FILTER PORE SIZE
Filter pore size	5 μm - 20 μm - 50 μm	ADJUSTING RANGE
Bowl capacity	90 cm <sup>3</sup>	$C = 5 \mu \text{m} / 0-8 \text{bar}$
Landing after a final state of the	1 drop every	S $D = 5 \mu \text{m} / 0.12 \text{ bar}$ $G = 20 \mu \text{m} / 0.8 \text{ bar}$
Indicative oil drip rate	300/600 NI	$H = 20 \mu\text{m} / 0-12 \text{bar}$
Oil type	FD22 - HG32	$N = 50  \mu \text{m} / 0.8  \text{bar}$
Bowl capacity	360 cm <sup>3</sup>	P = 50 µm / 0-12 bar
Assembly positions	Vertical	OPTIONS = Standard *
Min. operational flow rate at 6,3 bar	100 dm³/min. (ANR)	A = Min.oil level indicator NO
Wall fixing screw	M8	C = Min.oil level indicator NC S = Automatic drain SA = Automatic drain + Min.oil level indicator NO SC = Automatic drain + Min.oil level indicator NC FLOW DIRECTION = Standard * (from left to right) W = from right to left

<sup>\*</sup> no additional letter required

# Service unit assembled (VL+EM) (VL+E) (VL+EW)





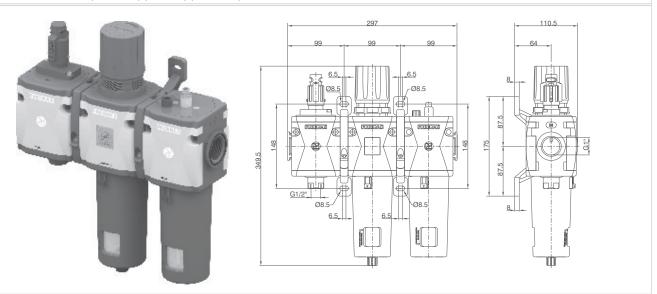


Example: GN174BVGG: size 4 combined group comprising Shut-off valve and Filter-regulator, G1" connections 0 to 8 bar adjusting range and 20 µm filter pore size

Operational characteristics	Technical characteristics			
Combined group comprising manual shut-off valve, Filter -	Connections	G1"		Ordering code
regulator with built in manometer, assembled with	Max. inlet pressure	13 bar		<u> </u>
one (Y) type coupling kit for panel mountings.	Working temperature	-5°C +50°C		GN174B <b>@©@</b>
Integrated manometer 0-12 bar as standard	Weight	2660 (gr)		TYPE
(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)	Pressure range	0-2 bar / 0-4 bar	O	
Note	Fressure range	0-8 bar / 0-12 bar		VU = G1/8" gauge connection FILTER PORE SIZE
The pressure must be always regulating while increasing. For	Filter pore size	5 μm - 20 μm - 50 μm		ADJUSTING RANGE
a more precise regulation and higher sensibility, the use of a	Bowl capacity	90 cm <sup>3</sup>		C = 5 µm / 0-8 bar
regulator with a pressure range as close as possible to the	La ella esta a esta della contra	1 drop every	8	$D = 5 \mu m / 0-12 bar$ $G = 20 \mu m / 0-8 bar$
regulated pressure is recommended.	Indicative oil drip rate	300/600 NI		$H = 20 \mu \text{m} / 0-12 \text{bar}$
	Oil type	FD22 - HG32		$N = 50  \mu \text{m} / 0-8  \text{bar}$
	Bowl capacity	360 cm <sup>3</sup>		$P = 50 \mu\text{m} / 0-12 \text{bar}$
	Assembly positions	Vertical	0	OPTIONS = Standard *
	, , , , , , , , , , , , , , , , , , ,			S = Automatic drain
				FLOW DIRECTION
	Wall fixing screw	M8	0	= Standard *
				(from left to right)
				W = from right to left

<sup>\*</sup> no additional letter required

# Service unit assembled (VL+EM+L)(VL+E+L)(VL+EW+L)



Example: GN174BVHG: Size 4 Combined group comprising Shut-off valve, Filter-regulator and Lubricator, G1" connections 0 to 8 bar adjusting range and 20 µm filter pore size

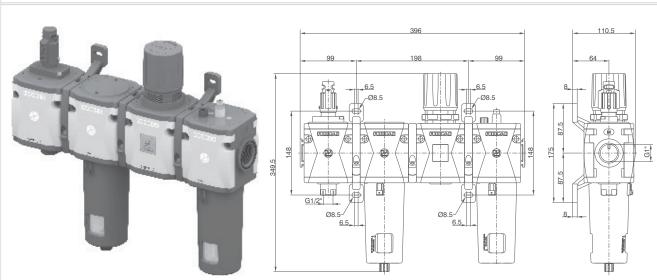
### Operational characteristics **Technical characteristics** Combined group comprising manual shut-off valve, Filter -Connections G1" Ordering code regulator with built in manometer and Lubricator assembled Max. inlet pressure 13 bar GN174B**@@@** with two(Y) type coupling kits for panel mountings. Working temperature -5°C +50°C Integrated manometer 0-12 bar as standard Weight 3805 (gr) VH = Built in gauge (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range) 0-2 bar / 0-4 bar Pressure range VJ = G1/8" gauge connection 0-8 bar / 0-12 bar FILTER PORE SIZE The pressure must be always regulating while increasing. For Filter pore size 5 μm - 20 μm - 50 μm ADJUSTING RANGE a more precise regulation and higher sensibility, the use of a Bowl capacity 90 cm<sup>3</sup> $C = 5 \,\mu m / 0-8 \,bar$ $D = 5 \mu m / 0-12 bar$ S regulator with a pressure range as close as possible to the 1 drop every $G = 20 \,\mu m / 0-8 \,bar$ Indicative oil drip rate regulated pressure is recommended. 300/600 NI $H = 20 \, \mu m / 0 - 12 \, bar$ $N = 50 \mu m / 0-8 bar$ $P = 50 \mu m / 0-12 bar$ Oil type FD22 - HG32 Bowl capacity 360 cm<sup>3</sup> OPTIONS Assembly positions Vertical = Standard \* A = Min.oil level indicator NO Min. operational flow rate at 6,3 bar 100 dm<sup>3</sup>/min. (ANR) C = Min.oil level indicator NC S = Automatic drain SA = Automatic drain + Min.oil level indicator NO SC = Automatic drain + Wall fixing screw M8 Min.oil level indicator NC FLOW DIRECTION = Standard \*

<sup>(</sup>from left to right)

W = from right to left

\* no additional letter required

# Service unit assembled (VL+F+RM+L) (VL+F+R+L) (VL+F+RW+L)

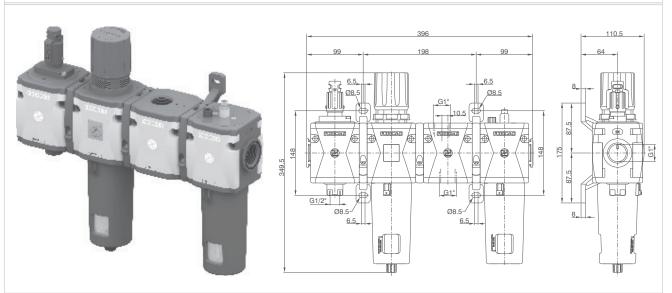


Example: GN174BVKG: size 4 combined group comprising Shut-off valve, Filter, Regulator and Lubricator, G1" connections 0 to 8 bar adjusting range and 20  $\mu$ m filter pore size

Operational characteristics	Technical characteristics			
Combined group comprising manual shut - off valve, Filter,	Connections	G1"		Ordering code
Regulator with built in manometer and Lubricator, assembled	Max. inlet pressure	13 bar		0.009 0000
with two (Y) type coupling kits for panel mounting and one (X)	Working temperature	-5°C +50°C		GN174B <b>@©@</b>
type coupling kit.	Weight	4830 (gr)		TYPE
Integrated manometer 0-12 bar as standard	B	0-2 bar / 0-4 bar	0	
(for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)	Pressure range	0-8 bar / 0-12 bar		VT = G1/8" gauge connecti
Note	Filter pore size	5 μm - 20 μm - 50 μm		FILTER PORE SIZE ADJUSTING RANGE
The pressure must be always regulating while increasing. For	Bowl capacity	90 cm <sup>3</sup>		C = 5 µm / 0-8 bar
a more precise regulation and higher sensibility, the use of a		1 drop every	6	$D = 5 \mu \text{m} / 0 - 12 \text{bar}$
	Indicative oil drip rate	300/600 NI		$G = 20 \mu \text{m} / 0-8 \text{bar}$
regulator with a pressure range as close as possible to the			-	$H = 20 \mu\text{m} / 0.12 \text{bar}$
regulated pressure is recommended.	Oil type	FD22 - HG32		$N = 50 \mu\text{m} / 0.48 \text{bar}$
	Bowl capacity	360 cm <sup>3</sup>		$P = 50 \mu m / 0-12 bar$ OPTIONS
	Assembly positions	Vertical		= Standard *
	Min. operational flow rate at 6,3 bar	100 dm³/min. (ANR)		A = Min.oil level indicator N
			-	C = Min.oil level indicator N
			0	S = Automatic drain
				SA = Automatic drain +
				Min.oil level indicator N
	Wall fixing screw	140		SC = Automatic drain +
	wall lixing screw	M8		Min.oil level indicator N
			FLOW DIRECTION	
			0	= Standard *
			9	(from left to right)
			1	M/ - from right to loft

W = from right to left \* no additional letter required

# Service unit assembled (VL+EM+PA+L) (VL+E+PA+L) (VL+EW+PA+L)



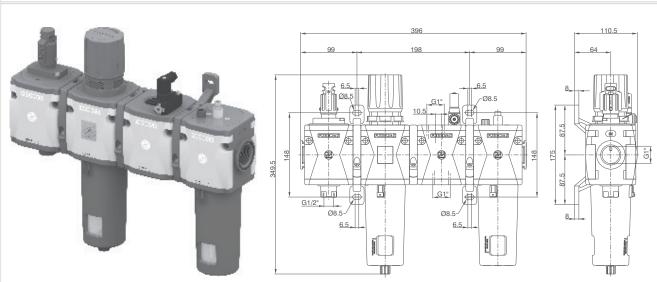
Example: GN174BVNG: size 4 combined group comprising Shut-off valve, Filter-regulator, Air intake and Lubricator, G1" connections 0 to 8 bar adjusting range and 20 

m filter pore size

### Operational characteristics **Technical characteristics** Combined group comprising manual shut-off valve, Filter -Connections G1" Ordering code regulator with built in manometer, Air intake and Lubricator, Max. inlet pressure 13 bar GN174B**@@@** assembled with two (Y) type coupling kits for panel mounting Working temperature -5°C +50°C and one (X) type coupling kit. Weight 4615 (gr) VN = Built in gauge Integrated manometer 0-12 bar as standard 0-2 bar / 0-4 bar Pressure range VP = G1/8" gauge connection (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range) 0-8 bar / 0-12 bar FILTER PORE SIZE Filter pore size 5 μm - 20 μm - 50 μm ADJUSTING RANGE The pressure must be always regulating while increasing. For Bowl capacity 90 cm<sup>3</sup> $C = 5 \,\mu m / 0-8 \,bar$ $D = 5 \mu m / 0-12 bar$ 8 a more precise regulation and higher sensibility, the use of a 1 drop every $G = 20 \,\mu m / 0-8 \,bar$ Indicative oil drip rate regulator with a pressure range as close as possible to the 300/600 NI $H = 20 \,\mu m / 0-12 \,bar$ $N = 50 \mu m / 0-8 bar$ $P = 50 \mu m / 0-12 bar$ regulated pressure is recommended. Oil type FD22 - HG32 Bowl capacity 360 cm<sup>3</sup> OPTIONS Assembly positions Vertical = Standard \* A = Min.oil level indicator NO Min. operational flow rate at 6,3 bar 100 dm<sup>3</sup>/min. (ANR) C = Min.oil level indicator NC S = Automatic drain SA = Automatic drain + Min.oil level indicator NO SC = Automatic drain + Wall fixing screw M8 Min.oil level indicator NC FLOW DIRECTION = Standard \* (from left to right) W = from right to left

<sup>\*</sup> no additional letter required

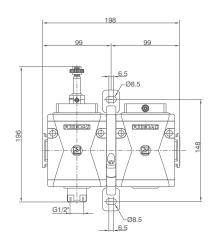
# Service unit assembled (VL+EM+PP+L) (VL+E+PP+L) (VL+EW+PP+L)

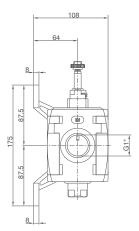


Example: GN174BVRG: size 4 combined group comprising Shut-off valve, Filter-regulator, Pressure switch and Lubricator, G1\* connections adjusting range 0 to 8 bar and 20 µm filter pore size

### Operational characteristics **Technical characteristics** Combined group comprising manual shut-off valve, Filter -Connections G1" Ordering code regulator with built in manometer, Pressure switch and Max. inlet pressure 13 bar GN174B**@900** Lubricator, assembled with two (Y) type coupling kits for panel Working temperature -5°C +50°C mounting and one (X) type coupling kit. Weight 4695 (gr) VR = Built in gauge Integrated manometer 0-12 bar as standard 0-2 bar / 0-4 bar Pressure range VC = G1/8" gauge connection (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range) 0-8 bar / 0-12 bar FILTER PORE SIZE Filter pore size 5 μm - 20 μm - 50 μm ADJUSTING RANGE The pressure must be always regulating while increasing. For Bowl capacity 90 cm<sup>3</sup> $C = 5 \,\mu \text{m} / 0-8 \text{ bar}$ $D = 5 \mu m / 0.12 bar$ a more precise regulation and higher sensibility, the use of a 1 drop every $G = 20 \, \mu \text{m} / 0-8 \, \text{bar}$ Indicative oil drip rate regulator with a pressure range as close as possible to the 300/600 NI $H = 20 \,\mu m / 0-12 \,bar$ $N = 50 \mu m / 0-8 bar$ $P = 50 \mu m / 0-12 bar$ regulated pressure is recommended. Oil type FD22 - HG32 Bowl capacity 360 cm<sup>3</sup> OPTIONS Assembly positions Vertical = Standard \* A = Min.oil level indicator NO Min. operational flow rate at 6,3 bar 100 dm<sup>3</sup>/min. (ANR) C = Min.oil level indicator NC S = Automatic drain SA = Automatic drain + Min.oil level indicator NO SC = Automatic drain + Wall fixing screw M8 Min.oil level indicator NC FLOW DIRECTION = Standard \* (from left to right) $W = from \ right \ to \ left$

<sup>\*</sup> no additional letter required





Example: GN174BSB2: size 4 combined group comprising Electric shut-off valve and Progressive start-up valve without coil with M2 pilot, G1" connections

Operational characteristics	Technical characteristics				
Combined group comprising Electric shut - off valve and	Connections	G1"		Ordering code	
Progressive start-up valve assembled with a (Y) type coupling kit	Max. inlet pressure	10 bar		<u> </u>	
for panel mounting.	Min. inlet pressure	2,5 (bar)		GN174BS <b>@0</b>	
	Working temperature	-5°C +50°C		15 mm COIL VOLTAGE	
	Weight	2390 (gr)		A4 = 12 V DC	
		Indifferent		A5 = 24 V DC A6 = 24 V AC (50-60 Hz)	
	Assembly positions	indilierent			
	Wall fixing screw	M8	<b>a</b>	A7 = 110 V AC (50-60 Hz)	
				A8 = 220 V AC (50-60 Hz)	
				A9 = 24 V DC (1 Watt)	
				22 mm COIL VOLTAGE	
				B2 = Without coil	
				M2 mechanic	
				B4 = 12 V DC	
				B5 = 24 V DC	
				B6 = 24 V AC (50-60 Hz)	
				B7 = 110 V AC (50-60 Hz)	
				B8 = 220 V AC (50-60 Hz)	
				B9 = 24 V DC (2 Watt)	
				30 mm COIL VOLTAGE	
				C5 = 24 V DC	
				C6 = 24 V AC (50-60 Hz)	
				C7 = 110 V AC (50-60 Hz)	
				C8 = 230 V AC (50-60 Hz)	
				C9 = 24 V DC (2 Watt)	
				FLOW DIRECTION	
			0	= Standard *	
				(from left to right)	

<sup>\*</sup> no additional letter required

W = from right to left

